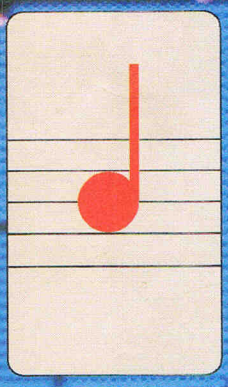
COMMODORE

COMPUTING INTERNATIONAL £1

EXCLUSIVE AMIGA ISSUE

NOW INCORPORATING COMMODORE & AMIGA HORIZONS UK

SEPTEMBER 1986



BRAND NEW SOUNDS FOR THE 64

GRAPHICS! PART II

GREAT NEW PACKAGES!

C128 PORTFOLIO

Script/Plus for the Plus/4

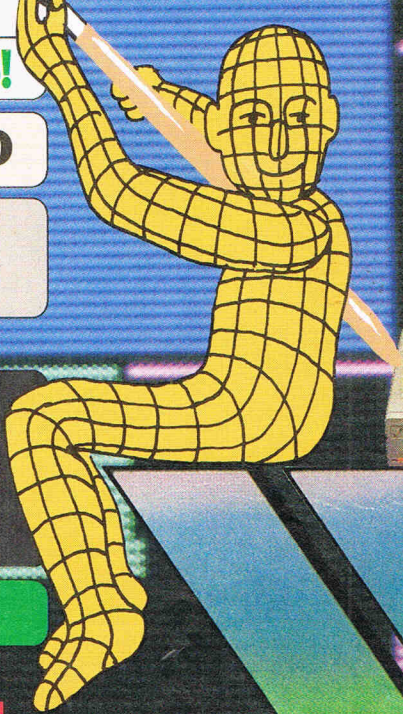
Plus

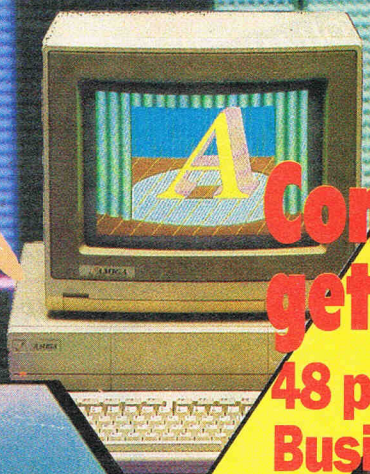
Greatest Games for the 64 and C16

Hints and Tips

Get the Best!

Mindwalker possibly the greatest game ever?





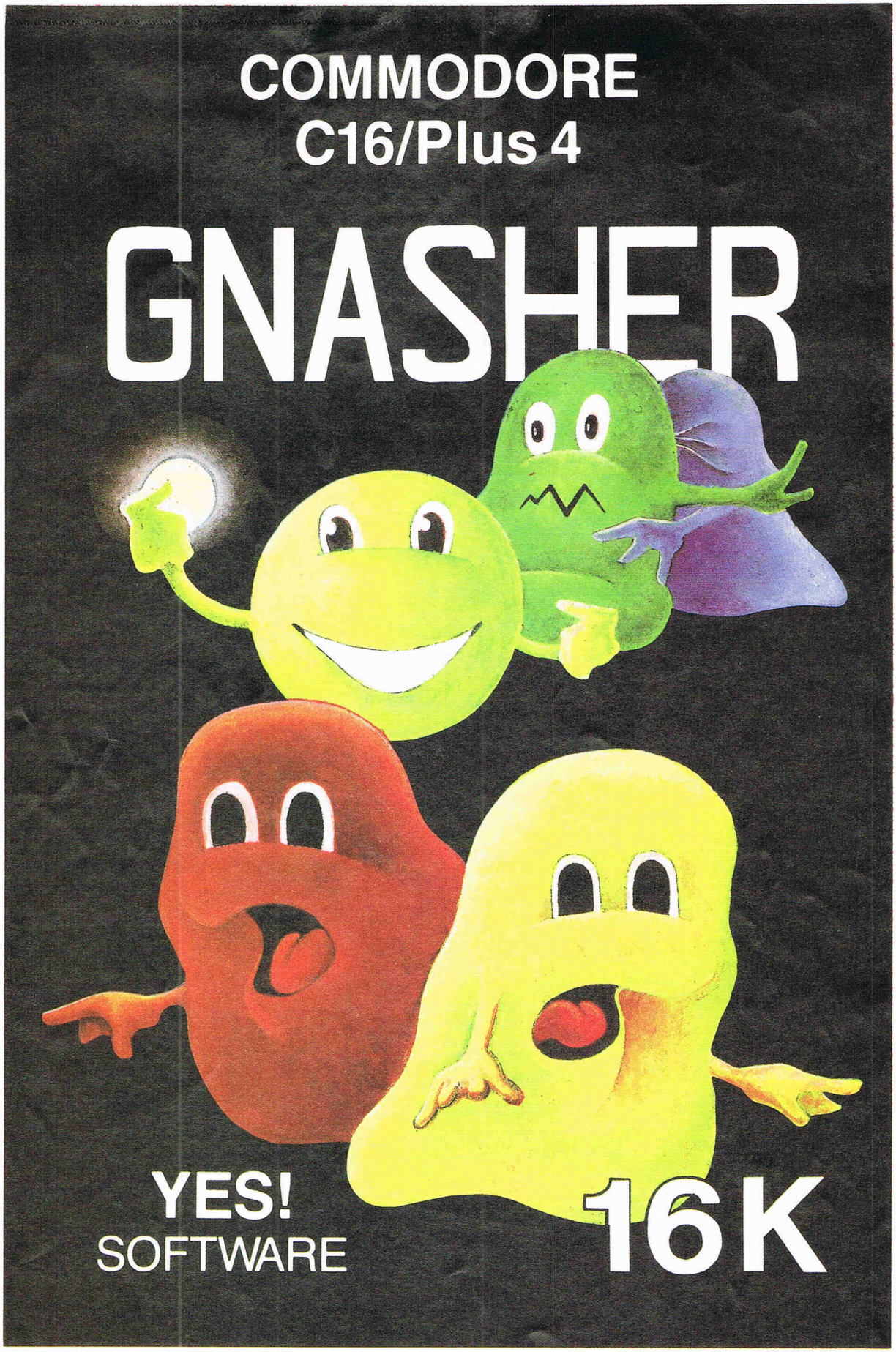
Commodore gets it right!

48 page SPECIAL Business and Amiga User

FREE! GREAT 'IMAGES' POSTER

WIN TERRIFIC PRIZES...

USA $1.25 GERMANY DM 7.5



OUT NOW!

YES SOFTWARE
UNIT 4
NORSIDE
OLD MIXON CRESCENT
WESTON SUPER MARE
AVON

YES SOFTWARE

NEW AUGUST RELEASES . . . STARLITE 1 . . . SKELBY . . . LAZER 900 . . . OPERATION REDMOON

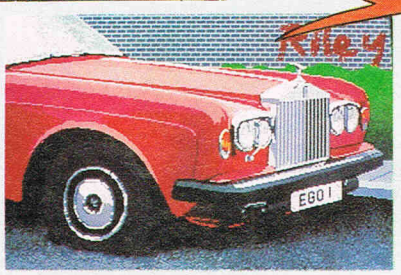
All available from your local retailer at £2.99 or direct from YES Software

132 pages of probably the best Commodore magazine in the Universe!

Inside COMMODORE COMPUTING INTERNATIONAL

September 1986

Feature of the Month



AMIGA

COMMODORE GETS IT RIGHT:
The Amiga-special supplement.

...NEWS

OVERVIEW
Sweet 16 for Melbourne, Fist II explodes onto the scene... W.A.R. out from Martech, Goodies from Ariolasoft... and a $10 million Amiga beater... etc 6,7,8

...FEATURES

GRAPHICS
Hugh Riley explores Rainbird's The Art Studio, boosts his ego with a Rolls Royce... Graphic Adventure Creator; eat your heart out Level 9! 10, 11, 18

SOUND
Play Music Studio with Ian Waugh 13, 14
Music Compendium - Mr. Waugh strikes another note? 17
Superior's Speech speaks for itself 21

GEOS-WRITE
Don't be a WIMP (?!) 23

NYMPHS & NODULES
... join the Titanic! 64

FIRST PUBLISHING
... legal battles for a formidable duo! 67

STARTER'S ORDERS
... Wanna bet? 80, 81

MUD AND BASIC FOR BEGINNERS BACK NEXT MONTH! SORRY, NO SPACE --

...REVIEWS

SCRIPT PLUS
a C16/+4 w/p 24

SUPER DISK DOC;
drives driving you crazy? 58

CALKIT
Ariolasoft's professional series 59

GAMESWORLD 28

C64/128 Core... Saboteur... Sam Fox Strip Poker (!) Rupert and the Ice Castles... Floyd the Droid & Ghosts'n Goblins (an awesome double?)... Alligata's Trap... Knight Games... Popeye vs. Ninja... Action Pack (4 games!)... Fab 4... Snow Queen... Hunchback — the adventure (Mega!)... And two AMAZING previews — Deactivators and... no... we're not allowed to tell you its name, but look on page 45 for the hottest secret around!

C16/+4 The incredible new Winter Events (Exclusive!)... Kung-Fu Kid... Jack Attack... Gullwing... Bombjack... Frank Bruno's Boxing... Sword of destiny... Myriad... and Shark. Plus some brill competitions.

...CONSTANT FACTORS

FELIX IS DEAD
— long live Super Felix! 30, 31

FIGHTING WORDS
— More tough Minter yakking 52

BOOK REVIEW 69

PROGRAMMING
Adventure with some hot utilities 54
— Mini-Sheet, a sexy spread-sheet? 71

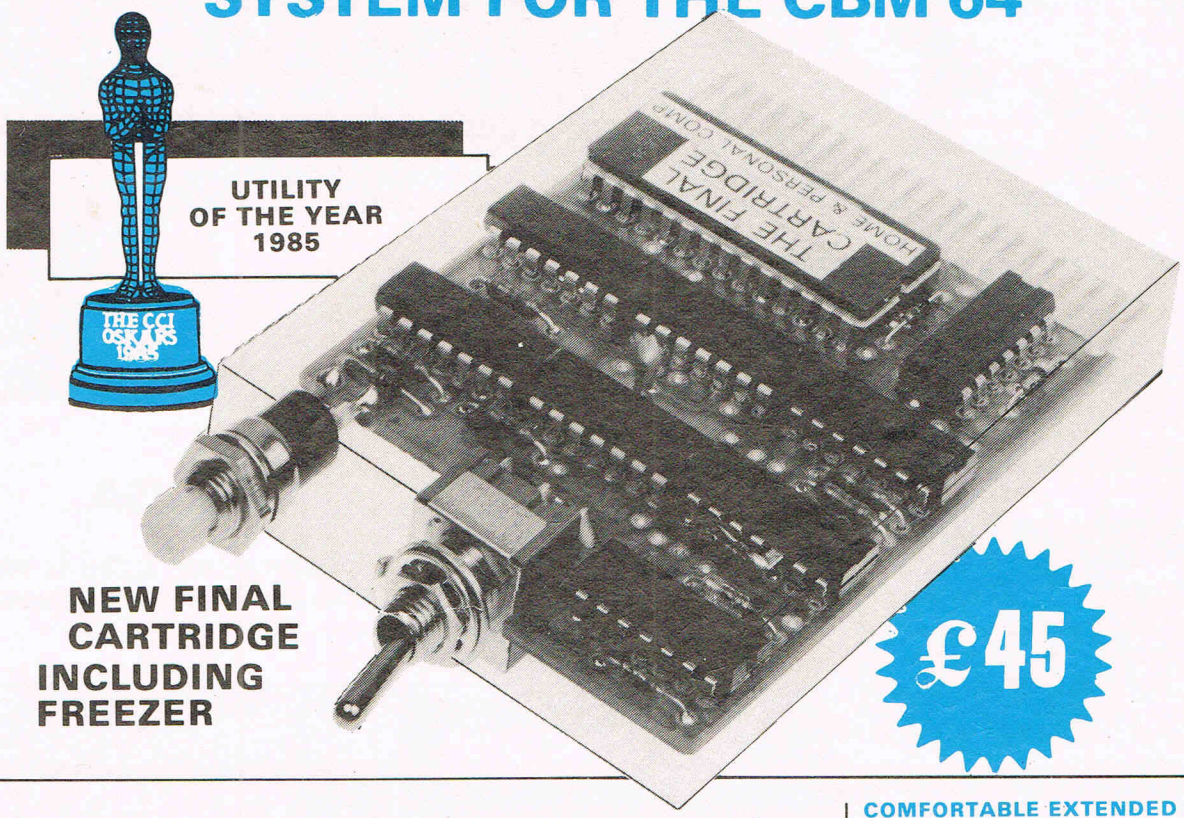
128
— The definitive portfolio of packages 77

ICPUG
— The Column 78

NEXT MONTH Special PCW issue — All the hottest releases for the show... Massive add-on guide... EXCLUSIVE-Micromud-the adventure sensation of the decade! PLUS... loads of goodies for you to grab in our competitions, and bags of money-off vouchers. Besiege your newsagent NOW!

THE FINAL CARTRIDGE®

THE FIRST OUTSIDE OPERATING SYSTEM FOR THE CBM 64 *



NEW FINAL CARTRIDGE INCLUDING FREEZER

£45

This new operating system built in a cartridge does not use any memory and is always there. Compatible with 98% of all programs.

DISK TURBO - 6 times faster loading - 8 times faster saving.

TAPE TURBO - 10 times faster, even with files - normal Commodore commands - compatible with standard turbo's.

ADVANCED CENTRONICS INTERFACE - compatible with all the well-known centronics printers and Commodore printer programs. Prints all the Commodore graphics and control codes (important for listings).

SCREEN DUMP FACILITIES - of low-res Hi-res and multicolour screens!! Prints full page with 12 shades of grey for multicolour pictures even from games and programs like Doodle, Koala pad, Printshop etc. Searches automaticly for the memory-address of the Picture. Special version available for the CBM 801 and 803 printers.

24K EXTRA RAM FOR BASIC-PROGRAMS AVAILABLE: Two new commands ,,Memory read'', ,,Memory write''. They move 192 bytes with machinelanguage-speed anywhere in the 64K Ram of the CBM 64. Can be used with strings and variables.

BASIC 4.0 COMMANDS - like Dload, Dsave, Dappend, Catalog, etc.

BASIC TOOLKIT - with Auto, Renum (incl. Goto and Gosub), Find, Help, Old, etc.

* works with C128 in the 64 mode.

Original multicolour full page screen dump print out.

PREPROGRAMMED FUNCTION KEYS: - Run, Load, Save, Catalog, Disk commands, List (removes all list-protections).

KEYBOARD EXTRA'S - Allows you to delete part of a line; stop and continues listings; move cursor to lower lefthand corner. Pokes and Syscalls in Hex. Typ-command operates your printer as a typewriter.

COMFORTABLE EXTENDED ML. MONITOR: - with relocated load scrolling up and down. Bankswitching, etc. - **does not reside in memory.**

RESET SWITCH: - resets to monitor; resets with old, resets to Hi-res printing; resets every protected program.

ON/OFF SWITCH - we hope you never need that one.

FREEZER:

Stops and continues almost every program and allows you to make a total back up to disk or tape automatically.

Specs: **Creates one file on disk or tape.**
Packs the program.
Freezes 4 to 6 times faster than dedicated freezers.

Menu driven:
Freezer options include:
full page printing
fore- and background colour changes
reverse printing
jumps to monitor or reset

Training mode:
kills sprite collision detection.

12 Months replacement guarantee.

H Home P Personal COMPUTERS

U.K. ORDERS Available by the wellknown Commodore Dealers or directly from

H & P Computers
9 Hornbeamwalk
Witham Essex CM8 2 SZ England
Telephone: 0376 - 51 14 71.

copyright and registered trademark H&P computers
Wolphaertsbocht 236 3083 MV Rotterdam Netherlands. Tel.: 01031 - 10231982 Telex 26401 a intx nl

CCI View

Dear Reader,

The summer is traditionally a quiet time . . . Yet this year there has been no let up at all. The public launch of the AMIGA, outside of the U.S. in May has bought a totally new dimension to the Commodore world. At the London's PC User Show, the AMIGA's exciting business potential was probably the biggest point of interest in the show. Yet several times, from visitors to our offices and outside, we have heard the AMIGA described as the ultimate home entertainment machine. Evidence of both views is clear in this issue of Commodore Business and AMIGA User bound into this CCI. It looks really an exciting beginning.

CCI also contains a number of equally interesting but sharply contrasting articles and features. We have games coverage that is now acknowledged to be the most comprehensive across the field of Commodore machines. And there is a surprising flood of new games to test. We also carry in depth features on graphics and sound. And of course, reviews of a wide range of products in which, as usual, CCI leads the field. We're happy that the people at ZZAP are suggesting to their readers that they should read CCI, even to learn it by heart! It shows very agreeable humility when one magazine acknowledges the superiority of another.

What worries us is that 'the fluffy lollipop factory', as we hear they now call their magazine, is in such dire straits that it cannot afford to buy a Commodore compatible printer. That's a very sad state of affairs. I think CCI readers might like to help them by sending them any old printers that are lying in the cupboard and if anyone has any old ribbons too, 'the fluffy lollipop might be grateful.

As for new names for ZZAP (I asked for in CCI August) we received many suggestions but as CCI is a magazine that is read by all ages and sexes, we don't feel it would be proper to print them. Thanks for your efforts anyway.

Yours sincerely,

Antony Jacobson
Publisher

Managing Editor and Publisher ..... Antony Jacobson
Editorial Assistant .... Julian Rosen
Features Editor .. Anthony Mael
Editorial/Production/ Subscription Controller ..... Sharon Gilkes
Senior Advertisement Manager ..... James Mack
Advertisement Manager ..... Max Jacobson
Finance Director B.J. Lewis M.Sc. F.C.A.
Consultant Art Editor ..... Graham Baldock
Illustration/Artwork ..... M.J./M.L. Arts Darren Chandler
Cover Photography ..... Paget Joseph
Contributors
..... Ian Bennett
..... Leslie L Bunder
..... Bill Donald
..... Sherri Giltes
..... Juan Holz
..... Tony Lydeard
..... Jeff Minter
..... Rae West
..... Neil Day
..... Courtney King
..... Ian Waugh
..... Hugh Riley

Telephone: 01-278 0333
Editorial ext: 274/275
Advertising ext: 280/286
Subscriptions ext: 274

Address:
Finsbury Business Centre
40 Bowling Green Lane
London EC1R 0NE

Distributed by: Comag, Tavistock Road, West Drayton, Middx UB7 7QE

Printed by Chase Printers Group

Typesetting: Merton Graphics

Published by Croftward Limited

Commodore Computing International - an independent magazine for Commodore computer users - is not connected in any way with Commodore Business Machines UK Ltd. It is published 12 times per year by Croftward Limited. The publishers do not accept liability for any incorrect statement or errors contained in material from independent sources or authors which may be reproduced from time to time.

© Croftward Limited 1986

ADVERTISERS DIRECTORY

Absoft	A29
Aegis	A24, A25
Alligata	37
Anakin	A23
Anco	47
Applied Visions	A30
ASA Ltd	A29
Byte by Byte	A48
Calco	62
Cavendish CBM Centre	A13
CIC	62
Colleen	17
Compumart	66
Compumed	A22
Computatill	81
Comspec	A34
Database	12
Data Design Techniques	A47
Datel	15
DDL	A45
Delta Pi	60
Digital Solutions	A2, A3
Dimension	9
Discovery Software	A27
Dosoft	43
Dynamite	43
ECL	53
Enhancer	26
Evesham Micros	63
FCC	62
First Publishing	68
First Software	66
Gemini Marketing	65
Gremlin Graphics	28
H & P	4, A31
Hi Voltage	A19, 60
HSV	60
ICPUG	60
Incentive	83
Konix	41
Lionheart	A22
Magnam	73
Metacomco	A13
Microillusions	A10
Micromedia	22
Micropro	27, A39
Microsmiths	A12
Modem House	19
New Tek	A6
Novagen	43
PAR	A22
Parasoft	25
Precision Software	A15
Roundhill	A29
RS Data Systems	A8
Sabre	61
School Software	83
Selec	81
64 Software Centre	70,79
Sophus	A23
Superior Software	20
Supersoft	84
Transtime Technologies	A26
Trilogic	68
Total Office S/w Ltd	A42, A43
Tynesoft	Insert
UK Soft Centre	44
Wizard	60
Yes! Software	2

Dedicated to P.J.!

...news...news...news...news

Top Printers

According to market research firm, Context, the Epson LX80 and Epson FX105 are Britain's top selling dot matrix printers. The two models gained Epson a 41.2% share of the total market during the first three months of 1986.

Dot matrix printers accounted for 77.1% of all printers sold compared to 13.7% for daisywheel printers and just 2.2% for laser printers.

And while Epson took 51.6% of the dot matrix market, it was Brother, with 37%, that grabbed the largest slice of the daisywheel market followed by Olivetti on 14.2% and Juki with 11.3%. Context estimates that the laser printer market is equally split between Apple, Hewlett-Packard and Canon.

Cold Comfort

In the U.S. General Electric are now selling a microprocessor controlled refrigerator. This "smart" fridge can be programmed to do lots of things for itself. Not just auto-defreeze, of course, it can, by using sensors and controls warn that the door is open, that the temperature is not sufficient for certain foods and distinguish between different required levels of cold. It also has an ice and cold drink dispenser in the door. At $1750, we have heard it said that it may be the next product off the Amstrad production line. After all what could be more natural than to find Sugar in the kitchen?

Wordcraft Goes Nova

WORDCRAFT Nova, a version of WORDCRAFT designed for the first-time word processor user has been released. It is aimed at companies who employ typists and educational establishments who train typists.

Nova comes complete with its own interactive HELP system and is easily upgraded to the full WORDCRAFT package when the user requires the more advanced features such as spelling checker, direct mailing and background printing.

WORDCRAFT Nova is around £150.

Beyond the Tee-shirt

A free tee-shirt is available for Beyond fans who buy the Company's latest release, Bounces.

The tee-shirt, which would normally retail at £5.95, is available free for all those who buy Bounces and one other Beyond game at the PCW show or by mail order.

US Gold on the move

US Gold and Centresoft, its distribution arm, are moving into IMI's Holford, a prestigious £28 million industrial estate in Birmingham.

With a dramatic increase in turnover over the last 18 months, both companies are now 'bulging at the seams' and expect to employ a further 50 staff after the move.

Geoff Brown, Managing Director of US Gold, commented that 'Holford compares very favourably with the best of the Californian Developments or the advanced industrial estates in the South of France in the quality of both its building and its environment. Another advantage is its location, US Gold and Centresoft operate a 24-hour distribution service — an order phoned to us by 6 pm is in the retailers store the following day — and we export to more than 30 countries, so that being so close to the motorway network and to Birmingham International Airport is essential to us.'

Geoff Brown added: 'This will be our fourth move in the past five years. Now at Holford we'll have premises which will allow our future expansion into manufacturing in every major European country and also expanding our leisure distribution.'

US Gold represents more than 30 American software producers and by the end of 1985 had produced 1.6m cassette games, 200,000 disk-based games and 75 software titles in 119 versons over all machine formats, including Commodore 64. The company is also looking to expand its existing involvement in computer packages for small businesses and for educational use.

Two new Palan Joysticks

Two new computer games joysticks have been launched by Palan Electronics. They are the Fantastic III and the Quickshot II Plus.

The Fantastic III is compatible with Commodore Vic and Commodore 64 computers and its streamlined and contoured base is designed so that its handgrip and centre of gravity suit the playing habits of different users. The 'hold-as-you-like" handgrip has rapid-action dual electronic fire buttons to suit both left- and right-handed players. It has eight directional fire movements with auto centering, and auto fire control. It also has an extra-long, two metre cord.

The long-awaited Quickshot II Plus has microswitches with auto-fire capability, and two fire buttons, so users can shoot with thumb or trigger finger as appropriate or convenient. The auto-fire switch allows players to unleash a continuous stream of bullets by locking the mechanism. Six microswitches improve the sensitivity and durability of the joystick, while the ergonomically-designed handgrip ensures comfort over long periods of use.

Single-handed video game play is possible with Quickshot II Plus as a result of the fitting of built-in stabilising suction cups.

Suggested retail prices are £6.95 for the Fantastic III, and, for the Quickshot II Plus, £12.95, both inclusive of VAT.

ACE American deal

After months of intense negotiation, Cascade Games have entered into a US licensing agreement for their ACE flight simulator.

The Spinnaker Software Corporation of Cambridge, Massachusets, is one of the top three US producers and Cascade are 'thrilled'.

Better known in the US for their educational software, Spinnaker will release ACE on their UXB label — the label responsible for American sales of 'Way of The Exploding Fist' or 'Kung Fu' as its called in the US.

Star Reduce Prices

In response to the bouyant home computer market Star Micronics UK Ltd have reduced the retail prices of two of their current models.

The printers are the 18cps PowerType daisywheel printer and the 60cps stx-80 thermal printer. Both compatible with the Commdore 64.

In the case of the PowerType the provision of true letter quality printing at £229 (reduced from £349) seems remarkable value for money. The printer uses standard Qume control codes which allow it to be used with a wide range of commercial software and features both parallel and serial interfaces as standard. With the stx-80 now costing just £79 (reduced from £149) the home computer user can obtain excellent print quality in virtual silence at less than half the cost of a conventional dot matrix printer.

Modem and phone link

Dacom Systems claims its Dataphone 1-3 is the first combined modem and telephone.

The 'executive-style' telephone features a nine-number directory and last number redial, and has four different ringing tones for easy identification in a noisy office. The modem conforms to standards V21 and V23, giving it speeds of 300bps and 1200/75bps respectively and making it suitable for electronic mail, viewdata and PC-to-PC communications.

It can also be used in 1200 baud half duplex mode. Connection to the PC is via the standard RS-232 interface.

Price: £245.

Prize of your dreams

Watch out for shops participating in the Alligata 'Prize of Your Dreams' promotion.

Next time you buy an Alligata tape or disk from one of these retailers you should receive an entry form for the competition draw. Fill in the card and return it to Alligata and you are in the draw with a chance to win a prize of your choice up to a value of £500.

...news ...news ...news ...news

Miracle modem

Miracle Technology (UK) Ltd, is set to take the data comms world by storm with its new low-cost intelligent modem, the WS4000.

Fully intelligent and speed buffered, the WS4000 offers autodial and autoanswer as well as Hayes-type compatibility for only £149.95 exc.

A major feature of the WS4000 is its upgradeability. In its standard version it supports the CCITT V21 and V23 standards, offering speeds of 300, 600, 1200, 1200/75 and 75/1200 baud. A host of optional uprades includes V22 1200 baud full duplex and V22bis 2400 baud full duplex, plus options of DTMF tone dialling, battery-packed internal telephone directory, process control port, and fully approved BELL standards for transatlantic communication. All options are available at the time of original purchase or a later factory upgrades.

Miracle Technology's Sales and Marketing Manager, David Baxter, told CCI 'The WS4000 brings the world of data communications within the reach of everyone. Access to services such as Prestel and Telecom Gold, as well as the world's databases and bulletin boards, has never been easier, or cheaper! Now the serious home user as well as the businessman can enjoy the advantages of a fully intelligent modem without incurring heavy expense.'

Shades on Micronet

By the end of August, Micronet members will be able to enjoy a Multi User Game (MUG) in the form of SHADES. Competitively priced at 99p per hour, with no registration fee, the game should prove to be very popular with Micronet members. Accesses to SHADES at off peak times will be charged at local telephone call rates.

Micronet members have requested MUG for some time, but up until now, Micronet was unable to find a version that was not only economical but which could also cope with a large number of simultaneous access.

Having chosen SHADES as Micronet's Multi User Game, Technical Director Mike Brown then had to apply himself to the problem of gateway software. He designed the protocol to convert scrolling text into viewdata format using split screen windows and is understandably pleased at the result.

Mike commented, 'The overall effect is extremely good. We've exploited the positive features of viewdata — including colour — to provide elegant, inexpensive, access to SHADES'.

Photographic Memory

eSCAN, which can 'read' images and store them on disk and convert text images into a readable format, has been released by Tecmar.

Drawings, graphs, photographs, handwriting or any document can be stored on disk. Letters and other text can be converted into Ascii format to be read by word processors.

Images can be treated as ordinary files and printed out, displayed on screen, edited, combined with others or sent over modems to other computers.

A single page of text can be read and stored in 40 seconds and without compression takes up about 618 Kbytes of disk. eSCAN costs £1,995 plus VAT. It is available for the IBM PC, XT, AT or compatibles. You need a minimum configuration of 10 Mbytes of storage and 256 Kbytes main memory.

Contact: Tecmar, Tel 08893 2275.

Ariolasoft spells it out

Watch out for 'Paperclip with Spellpack' — a new enhanced version of the comprehensive word processing program from Ariolasoft. It now features an automatic spelling-checker and built-in dictionary.

'Paperclip' — a former number one 'US Billboard' chart hit — is a comprehensive word processing program with full screen edit.

Its partner, 'Spellpack', is a computerised dictionary containing over 15,000 of the most commonly-used English language words. You can add your own personal dictionary to suit your own specific area of expertise and 'Spellpack' will compare each word in your document with its internal dictionary. If a word in your document is not in the dictionary, that word is highlighted on the screen.

For the C64, Disk £59.95.

Free gold

Buyers of the Hayes Smartmodem 1200 or Smartcom II software can now obtain a free Telecom Gold mailbox. The modems can only be obtained from authorised Hayes dealers.

Details: 01-847 4471.

Wordcraft Projects Users Data

Wordcraft have incorporated security systems into the software to help users meet the requirements of the Data Protection Act. The extra facilities include Password Protection and Scrambled Data Transmission.

Password Protection enables any document or file to be stored on disk in a coded form. Without knowing the password it becomes impossible to read the file and therefore prevents unauthorised access to disk files. The password can be upt to 16 characters in length and is case dependent, and therefore very difficult to crack.

Password Protection can also be applied to Wordcraft's data file manager to allow users who store information about others, e.g. for direct mailing, to comply with the requirements of the Data Protection Act.

With its own communications facility Wordcraft's users can transmit files between sites over the telephone system. These files can be password protected by Scrambled Data Transmission so that the transmitted data is unreadable by a line hacker or by any peson receiving the message who does not know the password.

This Scrambled Data Transmission facility allows confidential 'Managing Director's eyes only' messages to be transmitted by persons not authorised to access certain protected data files.

Lord Gigo

Red faces at London Airport computer set up when police rushed to the VIP lounge to arrest longtime fugitive, wanted for murder of his children's nanny, Lord Lucan. He was reported to be flying in, so Scotland Yard's heavies scurried to the scene to grab him. But (Shock! Horror!) the Lord they grabbed was not Lucan but Lucas, Government Minister for Trade and Industry! The computer (don't blame the computer! It's the information put into it! Ed.) had got the poor Lord's name wrong. Frightfully sorry, your Lordship!

Plus/4 Plus

Plus/4 owners are finally beginning to get the attention they've been demanding. After last month's report of a UK Plus/4 Club, now news of a Plus/4 Exchange in the U.S.

The Plus/4 Exchange Users Club offers a support network, a monthly newsletter, discounted software, peripherals and books. We've seen a copy of the newsletter and it's certainly full of useful information and ideas for Plus/4 owners.

Contact: Trimicro, P.O. Box 1130, Santa Ana, CA 92711. Tel: (714) 832-6719.

RPS bites into floppy market

Major inroads into the UK computer media market are being made by European floppy disk manufacturer, RPS.

A 100% first quarter year sales increase has been recorded and the company estimates in six months it will account for at least 12% of the floppy disk market previously dominated by American brands such as 3M and Dysan.

In just five years RPS has become Europe's second largest magnetic media manufacturer with over 20% of the total market. In the UK it has already captured 7% of the market estimated to be worth £150 million a year.

Key factor in the company's UK market growth has been the launch of the High Focus floppy disk range — a state-of-the-art disk with, it's claimed, a unique isotropic coating.

...news...news...news...news

Cray for the Chopp?

A new super computer has been announced that will challenge the present domination of Cray. The CHOPP (Columbia Homogenous Parallel Processor) has been developed at New York's Columbia University which has formed a company to market it. The present market for supercomputers is estimated at $500m a year but may grow to $1 billion by next year during which the CHOPP organisation hopes to sell five machines. They claim that it possesses a totally new architecture — a breakthrough in super computer design.

The CHOPP will be priced to compete with the CRAY at $10 million dollars. It will aim at the same market of oil, aerospace, automotive and weather forecasting.

Melbourne Goes C16

For the first time Melbourne House present a C16 compilation tape with *four* of their greatest hits.

These four greatest C16 hits will be packaged in a double library case and priced at a fantastic price of £7.95.

WIZARD AND PRINCESS is a multi-part graphic adventure divided into five levels, with each section requiring arcade skills and adventuring ability. The players task is to find the evil Wizard's castle, defeat the guardian dragons, negotiate the labryinth passages, rescue the Princess from the clutches of the Wizard and his monsters.

CLASSIC ADVENTURE is an up-to-date version of the classic Crowther and Woods game, Colossal Caves. The player will soon be immersed in an intriguing series of puzzles, requiring all the powers of a master adventurer to untangle them.

ROLLER KONG is a platform and ladders game. The players task is to rescue the maiden from her imprisonment before a deadly spider reaches her. The only way to get to her is by climbing ladders and moving along the platforms, but all the time it is necessary to avoid rolling barrels, fire bombs and spinks (deadly creatures) thrown at you by KONG.

DARK TOWER is a 27 screen arcade game. The player takes on the role of Prince Harry who has been turned into a mutant by the guardian of DARK TOWER. Your job is to collect all the jewels in the tower and return them to the Guardian. Only by doing this can you regain your freedom.

Commodore Announcement

Commodore are anxious for the public to be aware that Amiga product sold at prices significantly below Recommended Retail Price, (often with reduced specifications) will not be subject to the full support package offered by Commodore UK and its authorised dealers. In particular, Amigas offered for sale having been imported by non-authorised dealers from the USA or elsewhere, albeit with UK power supplies, are not guaranteed by Commodore UK, and are not guaranteed to run software or specialised hardware (in particular those interacting with video) developed for UK versions of the product.

We strongly advise that you ask your dealer to give details of the support package offered with your Amiga, and that it has full UK specification. If in doubt, or if you wish to ensure that your dealer is authorised by Commodore UK to sell Amigas, please contact Commodore on 0536 205555, and ask for the nearest authorised dealer in your area.

Users finding that their Amiga is not covered by the full UK support package will be able to purchase this from a Commodore authorised dealer, although upgrading to UK technical specifications is not available.

Commodore UK has the prime objective of ensuring that the UK purchaser is backed by total support from a strong and well organised dealer base. We also have a duty to ensure that product sold in the UK is suitable for this market and that the best interests of end users are served at all times. We shall do everything possible to continue to discharge that responsibility.

Commodore (UK) Limited.

GOODIES FROM ARIOLASOFT!

Fed up of Spot The Ball? Spot The Difference? or Spot The Dog?

Well try Spot The Screen Shot.

In every new Ariolasoft game from July 28th, there will be a Screen Shot Challenge card.

All you have to do is look closely at the card and use your skill to decide which Ariolasoft game the screen shot is taken from.

Get it right and you could win either a free game, a special Ariolasoft badge, or money-off tokens.

Get it wrong and you can still be a winner by entering the Grand Prize Draw, where you can walk away with your choice of any one of the following computers:

COMMODORE 128, SPECTRUM 128, AMSTRAD 6128, ATARI 130XE

Take up Ariolasoft's Screen Shot Challenge and get screening now!

Coming soon... from Martech

W.A.R.

Set in a Mechanical World which has been designed by engineers and built to a detailed specification, where huge rotating cylinders, linked as if they are part of a fantastic great chain, are inhabited by a vast civilisation. The inhabitants are innovative, imaginative and, unfortunately, warlike.

There religion is conquest, their latest victim is — Earth.

Already several missions have failed to deter the invaders. Long range attacks have discovered cylinders of this near perfect world protected by a deadly missile system, controlled by an intricate web of sensors. Patrolling individual cylinders; each of which is dedicated to a specific function, residential, military etc.; are DROIDANS — and they ask no questions!

C16 Fist

THE WAY OF THE EXPLODING FIST, the game which reached No. 1 on all the computer game charts, is, we hear, now available for the C16.

It has been carefully designed to realistically simulate all the moves found in the traditional age-old martial art of the Exploding Fist. In all the player can perform a variety of moves including blocking, ducking, jumping, kicking, feinting and somersaulting.

Set in a tournament situation playing against the computer or another player, your aim is to work yourself through ten levels which will make you a master of karate. But remember, as in the true Orient, the way to outwit your opponent is not always found in aggression.

C16 Way of the Exploding Fist is priced at £9.95.

DIMENSION computers l.t.d.

27/29 High Street
Leicester LE1 4FP
Tel: (0533) 57479

THE MIDLAND'S LARGEST HOME COMPUTER STORE

D BASE II OFFER

Ashton Tate D Base II cbm128 database with FREE How to run your business with d base II plus Understanding d base II books worth £22.85

£119.00

VIZA

Vizastar XL8 64	~~£99.95~~	£79.95
Vizastar XL8 128	~~£129.95~~	£99.95
Vizawrite Classic 128	~~£99.95~~	£79.95

ANAGRAM

Purchase Ledger 64	~~£75.00~~	£49.95
Sales Ledger 64	~~£75.00~~	£49.95
Stock Control 64	~~£75.00~~	£49.95
Cashbook 64	~~£75.00~~	£49.95

MICRO SIMPLEX

Accounts 64	~~£175.00~~	£99.95

PRECISION

Superscript 64	~~£69.95~~	£49.95
Superbase 64/+4	~~£99.95~~	£59.95
Superscript 64 & Superbase 64	~~£169.90~~	£99.95
Superscript 128	~~£89.95~~	£74.95
Superbase 128	~~£99.95~~	£74.95
Superscript 128 & Superbase 128	~~£189.90~~	£134.95

COMMODORE

Future Finance (Planning Package), Disc	~~£75.00~~	£17.95
Easyscript (Word Processor), Disc	~~£75.00~~	£24.95
Easyspell	~~£50.00~~	£19.95
Simons Basic Extension, Disc	~~£19.95~~	£12.95
Commodore 64 Programmers' Reference Guide	~~£9.95~~	£7.50
Logo (Educational Language), Disc	~~£34.95~~	£9.95

AUDIOGENIC

Swift Spreadsheet 128, Disc	—	£24.95
Wordcraft 40 (Word Processor), Cartridge	~~£99.95~~	£24.95
Magpie (Database), Cartridge & Disc	~~£89.95~~	£24.95

HANDIC

Easycalc (Spreadsheet), Cartridge	~~£49.95~~	£14.95
Diary, Cartridge	~~£29.95~~	£9.95

PRACTICORP

Inventory (Stock Control Package), Disc	~~£29.95~~	£14.95
Practicalc II — Advanced Spreadsheet with Database/Word processing facilities, Disc	~~£60.95~~	£49.95
Practicalc (Spreadsheet), Tape	~~£39.95~~	£9.95

MICRO CLERK 128

Accounts Package with Spreadsheet, Database and Word Processor	£99.95
Purchase Ledger*	£99.95
Sales Ledger*	£99.95
*OFFER PRICE — IF PURCHASED WITH ACCOUNTS PACKAGE	£69.95

CITIZEN 120D PRINTER OFFER

★ 100% Commodore compatible ★ 120 cps draft print mode
★ 25 cps near letter quality mode ★ friction and tractor feed
★ needs no interface ★ full two-year warranty

£184.95

TROJAN CAD MASTER LIGHT PEN OFFER

NEW VERSION — NOW INCLUDES SCREEN DUMP TO PRINTER ROUTINE

The Trojan Cad Master package combines a top quality light pen with superbly designed graphics software.

The extensive command menu includes freehand draw, Paint, Fill, Geometric shapes, etc., combining to create an easy to use but surprisingly comprehensive Graphics Package — undoubtedly representing the best value package of its kind.

~~£19.95~~ **£16.95**

STOP PRESS — CADMASTER NOW AVAILABLE FOR THE COMMODORE PLUS 4 ..... £19.95

PERSONAL CALLERS AND EXPORT ENQUIRIES WELCOME.

ALL OFFERS STRICTLY SUBJECT TO AVAILABILITY.

PERIPHERALS

MS2000 Mouse Tape	~~£64.90~~	£57.95
MS2000 Mouse Disc	~~£68.40~~	£59.95
Final Cartridge Tape-to-disc and utilities cartridge		£45.00
Commodore MPS 803 Tractor Feed Unit		£24.95
New Commodore 64/128 Modem		£79.95
Music Maker 128 Keyboard & Software		£24.95
8 Channel Synthesiser Pack with full size keyboard and software		£149.95
Comdrum Digital Drum Synthesiser		£29.95
Quickdisc +-1541 fast load/utility cartridge		£19.95
Box 10 Commodore Compatible Discs		£10.95
Currah Speech 64		£19.95

COMMODORE PRINTER OFFERS

MPS 801 Dot Matrix Printer	£129.95
MPS 803 Dot Matrix Printer with Tractor Feed	£169.95
DPS 1101 Daisywheel Printer	£299.95

Including FREE Easyscript Wordprocessor and Easyspell Spellchecker.

AMIGA with software package	£1599.95
STAR NL10C NLQ PRINTER fully Commodore compatible	£253.00
Commodore 1571 Double-sided Drive	£259.95
Commodore 1901 Colour Monitor	£289.95
Phillips 64/128 Green Screen Monitor	£87.95
Commodore 1900M Green Screen Monitor	£139.95
Commodore 1541 Disc Drive	£164.95
Commodore 128D	£559.95
Commodore 128 Compendium	£289.95
Commodore Compatible Data Recorder	£24.95
Commodore MPS 1000 CBM/Centronics Printer	£274.95
Citizen 560P 2-colour Dot Matrix Printer, Fully Commodore Compatible	£49.95

PRINTER RIBBON OFFER

MPS 801, 802 RIBBONS	£5.95
MPS 803 + 1000 RIBBONS	£4.95
DPS 1101 M.S. RIBBONS	£3.50

BUY 4 AND GET ONE FREE!

ALL PRICES INCLUDE V.A.T.

Please add £1.00 towards carriage and packing on any software order.
Hardware orders add £1.00 under £40.00 value, and £5.00 over £40.00 value.
To order, either send cheque/P.O. with coupon or ring **(0533) 57479/21874** with Access/Barclaycard number. Please allow 7 days for delivery from receipt of order or cheque clearance.

Send to: Dept. No. CC19, Dimension Computers Ltd., 27/29 High Street, Leicester LE1 4FP.

Item	Quantity	Price
.....		.....
.....		.....
.....		.....
.....		.....
	TOTAL	

Name: .....

Address: .....

.....

Telephone: .....

REVIEW

ART Studio

The OCP Art Studio from Rainbird is interesting from the moment you open the box. Inside is an optical device which decodes 2 letters on the TV screen to let you into the program. Once in, the program makes a copy which runs a printer to your specifications — thus the need for extra security.

This software won a lot of praise when it came out for the Spectrum, gaining the Best Utility Program of the Year Award for 1986. The 64/128 version is also outstanding within certain limits.

Most people producing pictures on the 64 use multi-colour mode. The lower resolution (160*200 pixels) is compensated by the ability to mix 4 colours in each 8*8 block of pixels. Hi-res mode (320*200) restricts you to two colours in each block so it becomes complicated to design a colourful hi-res screen. Rainbird has chosen to produce a program that only supports hi-res mode. However, if you want hi-res pictures then this is the program because everything is made easy.

It is WIMP (windows-icons-mouse-pointing device) driven and the style is very impressive. It will work with keyboard, joystick, trackball, mouse or koala pad, any of which move a pointer around the screen. At the top is a permanent narrow menu which lists command headings. Moving the pointer onto these headings pulls down a further menu for each, from which commands are given. This is a very neat system and beautifully designed. All the information you need is on screen when you need it, as text or icons.

You paint in 16 foreground or background colours with one of 40 paint styles. These include 16 different sized pens, 8 sprays and 16 user-defined brushes. The sprays are a joy to use. The pattern of dots they produce is random so the effect is that of an air brush. Oddly enough there is no single pixel pen. The brush pointer gives little indication of where the pixels will be drawn so I find I draw a rough shape and zoom in to adjust the drawing pixel by pixel.

The zoom is astonishing. You have a choice of *2, *4 or *8 magnification with optional grid. The magnified image takes up the whole screen but you can pan up, down and sideways to work on every part of the drawing.

Back in the main menu the shape commands control points and elastic lines, triangles, rectangles and circles. The circles can be drawn from centre or circumference, which is a useful addition.

Fill can be solid or one of 32 user-definable patterns — and it works very with a pattern. Calling wash will fill the most recently drawn object with a chosen texture, giving it instant depth.

The most powerful tool is the window. A window can be defined anywhere on the screen or even over the whole screen. Any pixels within the area can be rotated, flipped, inverted, cleared, enlarged or reduced, squashed or stretched. The window can be repeatedly cut and pasted, overwriting a previously drawn area or merging with it. An option exists to change all occurences of a colour within a window to another colour.

Text can be typed on the screen in 9 different sizes, reading horizontally or vertically. A powerful font editor allows you to design a whole character set with rotate, scroll, invert and flip. Alternatively the ROM character set can be called up or an entire set grabbed from any window. This is an extremely useful way to generate user-defined characters.

Fonts and pictures can be saved to disk or tape. The File command contains various disk utilities. The program can support up to 4 disk drives. The directory is displayed on screen and pictures can be saved, loaded separately or merged with an existing screen. Disks can be formatted, cleaned or wiped and files can be renamed or deleted.

Both Commodore bus and Epson compatible dot-matrix printer dumps are supported, in 5 sizes and in grey-scale. There is a choice of single or double density and dumps can be vertical or horizontal, with left, centre and right justification.

A lot of thought has gone into this piece of software. **Art Studio is simple to use, fast and powerful.** All in all I am very pleased with it but I do have three criticisms.

It helps if you can see where you are drawing. It should be possible for the brush pointer to be the shape of the brush it is using. After all, the data is already in the program. It would be nice to change colour and retain the pen, brush or shape you were using. Instead it requires seven joystick operations.

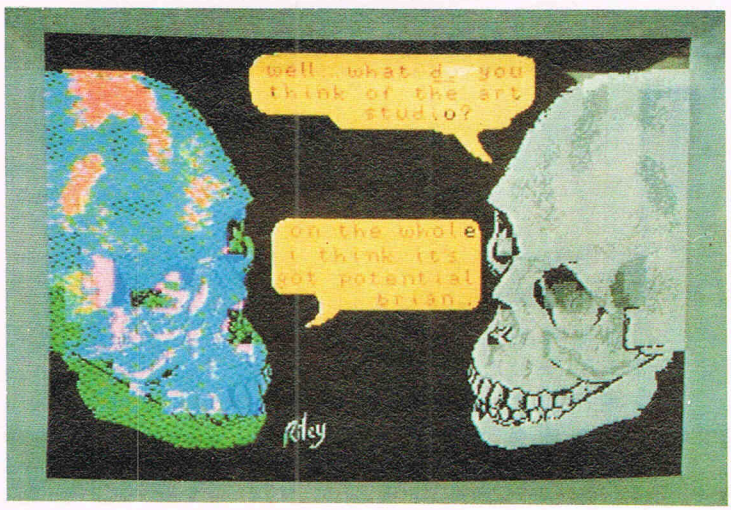
Finally, what I really want is a utility which is a 1st class hi-, medium- and lo-res designer, with the ability to grab characters and sprites from screen, and animate them. All these functions exist separately but not in one package.

Still, for £14.95 cassette or £17.95 disk the Art Studio is the best utility I have yet seen for producing hi-res graphics on the 64 and I have no doubt that I will be using hi-res more because of it.

Contact: Rainbird Software, 64/76 New

ART studio

Studio



Pictures created specially for CCI using Art Studio

Riley

Hugh Riley is famous for his AMIGA Rolls Royce and is one of today's outstanding electronic media artists.

THESE STICKERS COST US £300,000 IN RESEARCH AND DEVELOPMENT

...you can have them for £79.95

BABT
APPROVED for use with Telecommunications systems run by British Telecommunications in accordance with the conditions in the instructions for use
S/2805/3/G/500442

Our £300,000 was well spent. Our Voyager range of Modems – which are fully compatible with just about any micro – has now passed the rigorous BABT tests and is fully approved – even for PABX use.
So with Voyager, it's Anywhere, Any Micro: Approved!

Your £79.95 (ex VAT) will be well spent. You can pay twice the price for a modem and still not get these features:

- Multi Speed – including 300/300, 1200/75, 75/1200 full duplex, and 1200/1200 half duplex.
- LED/Computer status messages.
- More software support than any other modem – and the best.

The Magnificent Mustang 32 Cartridge

- Auto-Dial/Auto-Answer as standard (Free telephone directory disk).
- Full Bulletin Board Host software £69.95 (ex VAT) Run your own Bulletin Board (requires disk drive).
- Micronet recommend Mustang software.
- Full Printer support even with non Commodore printers.
- Function Key Menus with full On-Line Help facilities.
- Off-line mailbox editing including 'Graphic Mailboxes'.
- Great Electronic mail support including file unload/download.
- The Magnificent Mustang 32 Cartridge (32K EPROM) only £49.95 (ex VAT).
- CBM64/SX64/CBM128/CBM128D Compatible.

Special Introductory Offer: We'll pay your VAT. Voyager 7 and Mustang 32 Cartridge for only £119.90. Fill in the coupon then stand by to access mainframes and micros – worldwide and multispeed.

MODEM HOUSE

THE SINGLE SOURCE SOLUTION

Modem House, 70 Longbrook Street, Exeter, Devon EX4 6AP

As Stocked by Boots

Please send me:- (Tick which required)

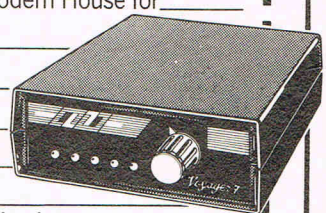
1. Voyager 7 Modem ..... £91.94 (inc VAT) ☐
2. Voyager 7 and Mustang 32 Cartridge ..... £119.90 ☐

I enclose cheque/PO payable to Modem House for_____

OR Access No:_____

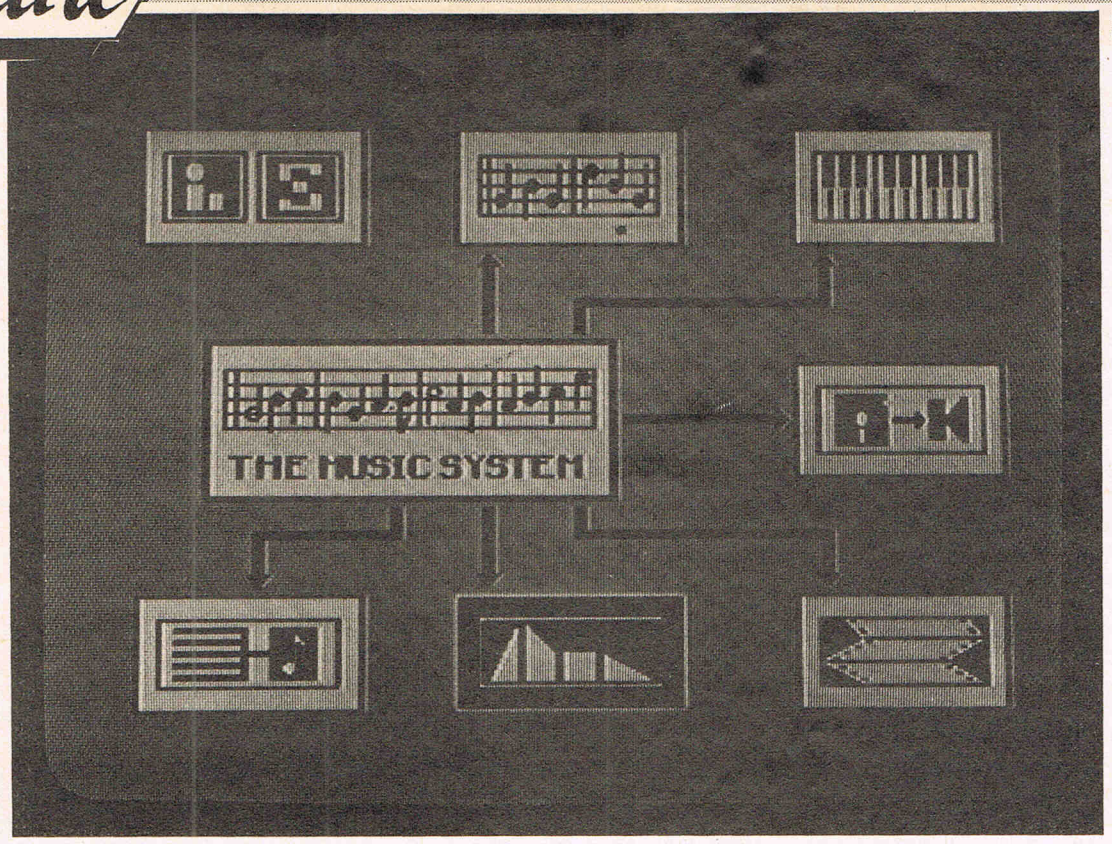
NAME_____

ADDRESS_____



Post to:- Modem House, 70 Longbrook Street, Exeter, Devon EX4 6AP Tel: (0392) 213355

CCI 9 86



Ian Waugh examines the Pros and Icons of Rainbird's Advanced Music System for the Commodore 64

MUSIC SYSTEM

A version of The Music System for the BBC computer was released in 1984 and was heralded by many as THE music program for the Beeb. Not only did it offer music input in traditional form (ie. staves and crotchets and quavers) but it was controlled by icon-driven pull-down menus. Such state-of-the-art programming on an 8-bit machine was truly revolutionary.

Now this *is* relevant to the Commodore version because it, too, uses icons and pull-down menus. More than that, the programmers expanded the program to take advantage of SID's extra facilities and features and they added an extra section — a MIDI module.

The AMS (as the Advanced Music System is known) consists of six main sections: the Editor in which you compose and arrange music on a stave; the keyboard which turns the Qwerty keys into a multi-track recorder; the Synthesiser which lets you program SID; the Linker which lets you chain together music files; the Printer which prints out your compositions and the MIDI module which can link the system to a MIDI synthesiser.

The AMS is protected by the Lenslock system which requires a bit of squinting and is altogether a nuisance but if it helps cut down software piracy...

The main screen shows icons representing the six modules each of which is highlighted in turn by pressing the Space Bar. To enter a module you press RETURN. Because of the sheer number of functions — six modules and well over 100 operations — control of the AMS could have been unwieldy but, where possible, the same keys are used to perform the same sort of function. For example, the Q and W keys change values, SPACE selects options and RETURN confirms the selection.

Each module has another common feature: the Command Line which sits at the top of the screen. It activates four pop-up menus: Files, Values, Commands and Info. Although the content varies from module to module, the information is of a similar type. Files is self-explanatory. Values shows changeable information such as active voice, octave and volume. Commands contain the operations you can perform within that module such as delete track, set markers, accent music and check barlines. Info displays information which can not be altered such as the files in use, free memory space and the size of individual voices.

The Editor is where you enter notes on a stave. You can insert accidentals including double sharps and flats and enter triplets. Barlines can be set automatically and you can insert repeat barlines, too. Only one voice is shown on screen at a time and you flick from voice to voice at the press of a key.

Using Macros you can carry out operations on a marked section of music. You can transpose it, alter pitch or volume or give each note the same envelope. You can save a marked section to the notepad, a separate memory area, which can be saved and loaded allowing you to transfer notes between voices.

(Cont.)

You can also define loop sections, for example a rhythmn track, which will repeat continually while a non-looping voice plays.

This has just skimmed the surface and the manual thoughtfully has a quick start section to ease you into the program.

The keyboard module works along similar lines to a multi-track tape recorder. Notes are entered monophonically, one voice at a time on the QWERTY keys. Music files can be loaded into the Editor for further manipulation although they may look rather messy. A Block Tidy facility in the Editor, however, converts all single rests to notes and ties them to the previous note so this can help.

SID may be a brilliant sound chip but if you think all that PEEKing and POKEing is a good way to go slowly mad, look at the Synthesiser module. It has lots of graphics displays to help you understand ADSR envelopes and filters and a quick guide to creating sounds should get you started quite painlessly.

You can play a tune while altering SID's parameters to get an instant appraisal of the new sounds you are creating.

A rather super extra is the inclusion of two non-SID envelopes which can be used to modulate the pulse width and filter frequency of the voices. Normally one of SID's voices would be used to do this but now you can sound all three voices at once — with modulation, too.

Envelopes you create are saved as sound files and can be loaded into the Editor and Keyboard modules. Each note can then be assigned one of 15 envelopes.

The Linker lets you chain together several files into one composition. Up to 26 files can be used and arranged in a sequence containing up to 99 items and the whole saved as a separate file.

If you want a hard copy of your Masterwork for posterity — or just to impress your friends — the Printer module will do it. You can enter lyrics beneath the music, too.

Six printers are supported: Epson FX-B0, RX-80, MX-80 F/T, Star Delta 10, CBM MPS 801 and 802. If you use a printer interface, it can also send output to the User Port or the Serial Port.

The MIDI Module lets you plug into a real synthesiser and play your compositions through it. You can also use the synth as opposed to the QUERTY keys to enter notes in the Keyboard module.

A separate hardware interface is required and the program supports the Passport, Siel and JMS interfaces although the latter two are no longer made but may be still available from music shops.

This module is effectively a six-track real-time sequencer. Muic files can be converted into MIDI files to be played through a synth and vice versa but obviously you end up with a three note arrangement for SID.

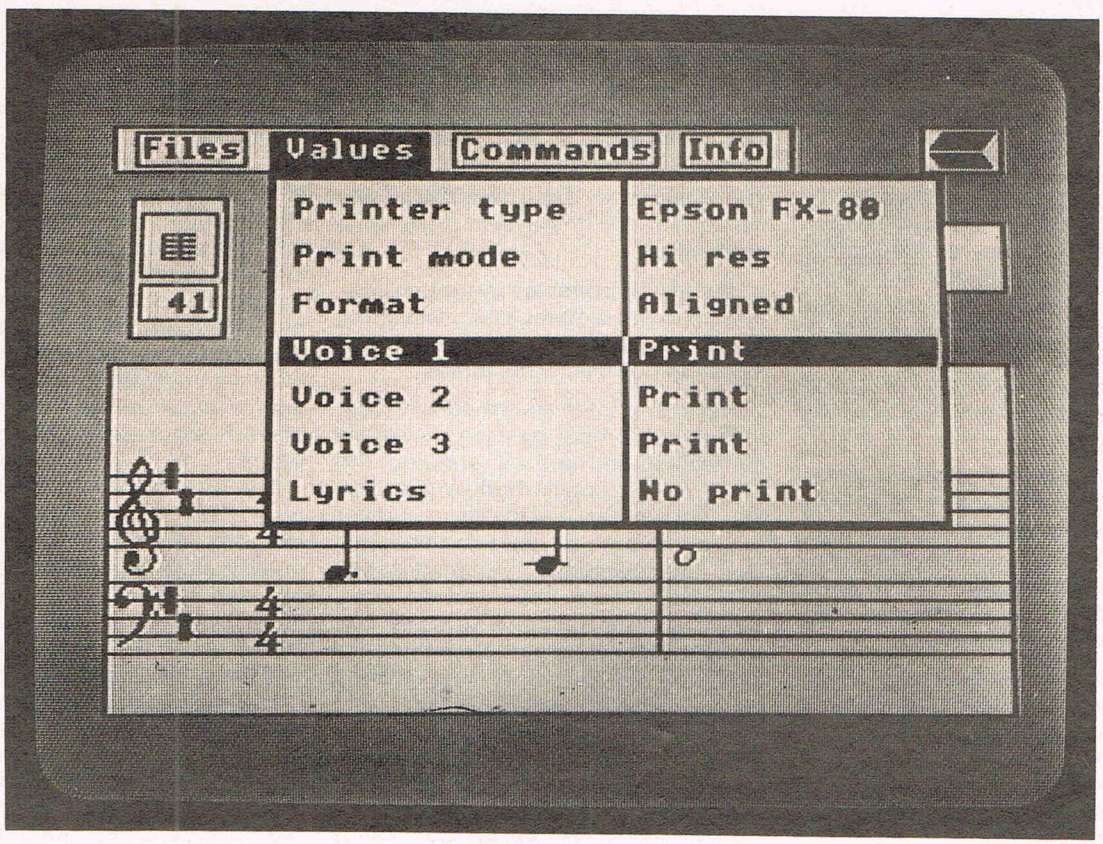
It doesn't stand up to comparison with dedicated MIDI software (and there is so much now available) but it is an interesting extra.

The manual is a model of computer software manuals with lots of diagrams and a good index. The disc contains music files on both sides — you flip it over.

The Music System can be used as a tool to experiment with compositions and arrangements and, to date, **it is the definite music program for the Commodore. Well may they call it THE Music System.**

The AMS contains all the modules described above and retails at £39.95 and is available only on disc. A smaller version, the TMS, containing only the Editor, Keyboard and Synthesiser modules is available for £17.95 on disc and £14.95 on cassette.

Further information from Rainbird Software.



DATEL ELECTRONICS

THE NO 1 NAME FOR COMMODORE

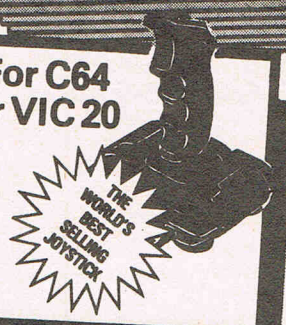
QuickShot II

ONLY **£7.99** POST FREE

- TOP + TRIGGER FIRE BUTTON
- AUTO FIRE MODE • EXTRA LONG LEAD
- STABILIZING SUCTION PADS
- NOW FOR THE C16

ONLY **£9.99** COMPLETE WITH INTERFACE POST FREE

For C64 or VIC 20



THE ULTIMATE BACKUP CARTRIDGE IS HERE ACTION REPLAY

WILL STOP THE ACTION OF ANY GAME AND MAKE A COMPLETE BACKUP

PLUS FAST LOADER SYSTEM Two cartridges in One!!

ONLY **£24.99** POST FREE

ACTION REPLAY

NEW FEATURE TO DISC OR TAPE

- Action Replay takes an "Action Shot" of the whole programme in memory. It does not matter how the program was loaded i.e. From tape or disc at normal or turbo speed. Therefore tape to disc, tape to tape, disc to tape or disc to disc backups are easily made. All backups will run independently of the hardware.

• WITH BUILT IN FAST LOAD CARTRIDGE

At the flick of a switch you have a fast loader cartridge that will not only fast load your "Action Replay" backups but will also fast load your other software at 5 or 6 times normal disc speed. Tape backups will also reload at high speed!

EVEN HEAVILY PROTECTED SOFTWARE!

Send now for quick delivery.

If you have a C64— you need an ACTION REPLAY

UNIQUE ™ Cartridge Development System

POST FREE

£9.99 Including "Cartridge Development Handbook"

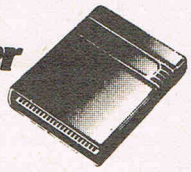
A complete kit of parts for an 8K 16K Autostart Cartridge including:

- High quality double side P.C.B.
- Injection moulded cartridge case
- Reset button/bank switching facility.
- Accepts 2764 or 27128 Eproms
- Cartridge can be configured in many ways – full instructions in "Cartridge Development Handbook".

A MUST FOR THE DISC HACKER

Super™ Snooper

Track and Sector Editor Cartridge



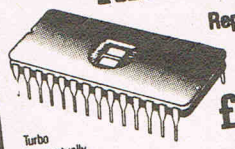
ONLY **£10.99** POST FREE

Super Snooper lets you examine decode and change any program directly on the disc in your drive.

- Gives readout of each sector/track in Hex, Decimal and ASC II
- Built in powerful disc ram monitor/disassembler. Unprotecting, adding pokes and making backups are made easier with the Super Snooper. Since most disc protection schemes are never loaded into the computer ram, a track and sector editor is invaluable tool when making back ups etc.

Turbo Rom™

Replacement Kernal



£10.99 POST FREE

Turbo Rom actually fits inside your computer and replaces the normal slow Kernal Rom with superfast disc loading routines, plus extended DOS commands.

- Loads most programs at 5-6 times speed
- Improved single key commands
- Fits inside computer so all ports are free.
- Return to normal kernal at flick of switch.
- Fitted in minutes – no soldering usually needed (on a few C64's the old Rom may have to be de-soldered).

Disc Utility Cartridge ™ Disk Mate

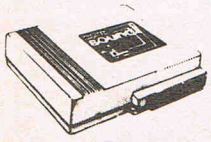
ONLY **£12.99** POST FREE **NEW**

A multi feature cartridge for the disc drive user.

- FAST DISC COPIER copies entire disc in 4 minutes even many protected programs.
- FAST FORMAT format an entire disc in 10 seconds.
- FAST LOADER loads many programs at 5-6 times normal disc speed
- IMPROVED DOS COMMANDS single key commands for: Directory, Load, Scratch, etc., etc.
- POWERFUL MONITOR/DISASSEMBLER view any area as full disassembly or HEX/ASCII. Features including: Move, Find, Fill, Compare, Assemble, Screen or Printer, too many features to list.

DIGITAL SOUND SAMPLING

COMPLETE PACKAGE



£49.99 POST FREE

FREE AUDIO (TV LEAD!)

NOW FOR YOUR COMMODORE 64

The Datel Sampler now brings you this technology at a sensible price!

- The Sampler allows you to record any sound digitally into memory and replay it instantly at any pitch, backwards, forwards, ascending scale, descending, with echo, reverb, flanging, endlessly looped etc. Truly professional hardware incorporating:
- Full 8 bit D and ADC conversion.
- Line or MIC input, line output and feedback control.

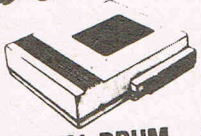
A comrehensive software package including:

- A live effects menu with echo, reverb, digital delay, etc.
- Full sample editing facilities with review and on screen frequency plotting.
- A powerful real time sequencer.

Available now complete hardware/software package. Complete with microphone. Please state disc or tape software required.

COM-DRUM

ONLY **£29.99** POST FREE



DIGITAL DRUM SYSTEM FOR THE C64

SPECIAL OFFER AUDIO/TV LEAD (WORTH £4) FREE!!

Now with the Com-Drum digital system you can produce studio quality drum rhythms with real drum sounds. All the features of systems 10 times the price.

- A complete digitally recorded drum kit, i.e. 8 voices – kick drum, snare, tom tom, hi-hat, cymbal etc. etc. N.B. these are real drum sounds – not synthesized.
- Real-time and step time sequencers. • Full editing system.
- 16 Alternative voices supplied free • More voices to be released (price to be about £5.00 for 32 voices tape or disc).
- 8 pre programmed rhythms to start you off • External sync facility • Very simple to use. • Line output to hi-fi/amp or through TV with optional audio TV lead (see offer). • On-screen menus. • Stylish case • Please state tape or disc software.

AVAILABLE NOW! •

£9.99 ONLY POST FREE WHEN PURCHASED WITH THE SAMPLER

COM-DRUM SOFTWARE ONLY, TO WORK WITH THE DIGITAL SOUND SAMPLER

IT'S HERE...

AMERICA'S BEST SELLING DISK BACKUP SYSTEM NOW AVAILABLE IN THE UK!

FAST HACK'EM ™

BY MIKE J. HENRY

£19.99 POST FREE

SIMPLE TO USE FULLY MENU DRIVEN

FOR THE COMMODORE 64/128

A MULTI-MODULE SYSTEM - ALL ON ONE DISK

FAST HACK'EM IS QUITE SIMPLY THE BEST DISK COPYING SYSTEM AVAILABLE, ANYWHERE AT ANY PRICE.

SINGLE 1541 MODULE

- AUTO NIBBLER: Copy an entire protected disk in 3 minutes. Automatically senses type of protection and treats it as normal data to produce working copy.
- NIBBLER: Copy and entire disk in 2 minutes. As above but parameters can be set manually.
- FAST COPY: Copy a disk in under 2 minutes.
- FILE COPY: Copy and file in 9 seconds.
- FAT TRACKER: Fat tracks are amongst the latest forms of protection. This mode allows you to produce a fat track on the disk.

SINGLE 1571 DRIVE (64 OR 128 MODE)

- FAST COPY: Entire 1571 disk in under 1 minute.
- SINGLE OR BOTH SIDES: Will copy C64 or true 128 software.
- C64 or 128 Modes.

TWIN 1541 DRIVES MODULE

- AUTO NIBBLER: Copy an entire protected disk in under 1 minute. Features auto track/sector analyzer.
- FAST COPY: Copy entire disk in 36 seconds! or 56 seconds with verify.
- AUTOMATIC FASTCOPY: As above but with completely automatic operation. In fact once set up doesn't even need the computer. A must for duplicating disks on a large scale.

1541 PARAMETERS MODULE

This is the module that gives Fast Hack'em its power. The parameters module contains dozens of "Parameter Keys" that are used to unlock those heavily protected programs. Each parameter is designed for a particular software brand or even a particular program. Other copy programs may make strong claims - but without special parameters they just can't cope. Datel will be offering updates to Fast Hack'em on a quarterly basis, featuring 20-50 new parameters plus other improvements as the're made. Prices to be £6 plus old disk.

SOFTWARE HARDWARE SUBMISSIONS

If you have a program or hardware project or just the idea for one. Why not submit it to us for evaluation. We pay top royalties or outright payment.

BECAUSE FAST HACK'EM IS PRODUCED IN THE U.S. IT WILL ALWAYS BE ON TOP OF THE LATEST PROTECTION TECHNIQUES. SINCE MANY OF OUR LATEST PROGAMS APPEARED IN THE U.S. MANY MONTHS AGO.

DEALER ENQUIRIES WELCOME

DATEL ELECTRONICS

USUALLY SAME DAY DESPATCH ON ALL ORDERS

SEND CHEQUES / P.O's TO:

UNITS 8/9
FENTON INDUSTRIAL ESTATE,
DEWSBURY ROAD, fenton,
STOKE-ON-TRENT TEL: 0782 273815

24 HR CREDIT CARD LINE

VISA

FOREIGN ORDERS ADD £2 POSTAGE

HOW ABOUT HACKERPAK??

1. ACTION REPLAY + FAST HACK'EM ONLY **£39.99**
2. SUPER SNOOPER + DISK MATE ONLY **£20.99**
3. HACKERPACK 1 + 2 ONLY **£58.00**

Feature

COLLEEN

COMPENDIUM

You may be forgiven for thinking, that it is a bit late in the day for another music program to be launched on an already crowded market. But Colleen Music Compendium is a compendium in the true sense of the word and contains no less than eight programs, and so can be given a warm welcome. Most can be controlled from the keyboard or with a joystick but nearly all require some form of keyboard input as well.

Side 1 contains a Music Tutorial, a SID Chip Tutorial and a Guitar Tutorial. On the main menu screen is an attractive picture of a cottage nestling among hills and greenery. A rather super illustration of the goodies to come can be heard as SID plays a clever country hoodown dance until you make a selection. The Music Theory Programs cover the Stave, Treble and Base Cleff, note and rest values, ledger lines, bar lines, repeats, time signatures, ties, pick-up notes and accidentals. All features are illustrated graphically where relevant.

This package would not make you a Menuhin or a Music Master over night but it certainly is a lot more fun than working through a book on the subject. To be a complete Music Tutorial, however, it would need to cover more than just the basics and some sort of test section would be required too. But it will get you going and probably lead you on to a deeper study of music.

The Guitar Tutorial shows you the finger positions for all major, minor, and 7th and minor 7th chords and plays the chords too, so that you can hear the sort of noise you're supposed to be making. It also has a tuning facility so that you can tune your guitar to SID although perhaps putting SID in tune with your guitar would be a better idea!

Only one set of finger positions per chord is shown - generally the most common - and although the layout of the program limits the choice of chords to those mentioned above, the addition of a few others would have made for a more complete tutorial. For example, diminished chords of which there are only 3, and augmented chords, of which there are only 4, are quite common. Major and Major 7th would have been welcome, but if you are just learning perhaps 4 chord types are more than enough to start with.

The SID Chip Tutorial tells you how to program SID in Basic. If you're not the dedicated musician or programmer the thought of all those registers can be very off putting. The tutorial covers Volume, Envelopes, Pitch, Wave Forms, Ring Modulation, Sync and Filter. Example programs are listed and suitable sound effects are heard, where relevant.

Like the other Tutorial Programs, this is far more fun than reading from a book. It is a fine introduction, far better than User Guides but if you are really serious about programming SID you need a book too. *See Commodore 64 Music by Jan Wafe — Ed!)

Side 2 of the disc contains Playablong, Drum Machine and The Creator.

Playalong produces a one or two beat rhythm accompaniment rather like the auto — accompaniment features found on portable keyboards. You can choose from 4 styles: Boogie, Country, Disco and Waltz — the Disco and Country Rhythm in particular are very good. You can select any major or minor key and alter this during play. Great fun! The chords can be selected from the computer with a joystick or with a Music Maker Keyboard.

I would like to have seen more types of rhythm lasting for more than just one or two bars and a facility to program a chord sequence would have made it even better. I do not believe you can have too much of a good thing.

The Drum Machine permits cursor control only — just as I was getting the hang of the joystick too. You can create up to 40 bars using Base, Snare and Hihat. You then arrange them into a pattern by specifying the order in which they are to play. You can order up to 999 bars in this way which makes for quite a large composition.

The Drum Sounds can be edited slightly but they do leave something individually to be desired. You can't hear what each bar sounds like; the only way to hear a bar is to put it in a pattern. You can load and save bars and patterns but you can't catalogue the disc.

The Creator is undoubtedly the biggie. It lets you create music using all of SID's parameters and then it compresses it and saves it as a machine code file. This can be loaded and run, interrupt driven, from your own programs. There are no royalties or fees to pay so this could be your chance to make some money, and enjoy your own creative talents.

This program only works with a joystick and notes are entered by selecting the required pitch from a 6-Octave Keyboard at the top of the screen.

The note duration can take any value. The most common ones can be selected with the joystick but there is provision for user value to be used, too.

Wave forms range from the usual triangle, sawtooth, pulse and noise ring modulated and synced waves. The pulse width can be varied, vibrate adjusted. The ADSR altered and the filter programmed. These can be altered for each note — apart from global parameters such as the filter — **the range of sound and noises you can produce is almost limitless.**

You can edit a voice by stepping through each note and the values of most of the parameters are shown as each note plays.

The ASDR values are not shown which is something of a miss but you are told that an envelope change taken place. Notes can be altered, inserted or detailed.

After creating your masterpiece a special routine compresses the data and saves it. Each note uses only two bytes of memory and a change of envelopes uses 4 bytes so the process is quite efficient.

The combiner lets you store up to 3 times in memory at once. The process is fully automatic and there is not much to say about it.

THE FINAL PROGRAM

The final program produces sound effects like the programs produced with the creator. These are interupt driven and you can use them while your creator music is playing — with the temporary loss of voice 3.

As music is such an important part of games programs, these routines will allow anyone unfamiliar with machine code too produce professional quality music. You need to do your homework before hand, of course, but it is a lot easier to use than an adventure generator — less frustrating and more fun. It is not quite instant Ron Hubbard but it is the nearest thing yet.

Colleen Music Compendium contains something for everyone although I suspect those who know a little about music will have no use for the tutorial programs.

£49.95, for such is the cost of the package, is after all, a lot of money. Perhaps Colleen would benefit by selling the two sets of programs separately.

If the idea of a music package appeals to you then I can certainly recommend this one to you. You'll find it really good fun.

Ian Waugh

Contact:
Colleen Limited
Colleen House
18, Bishops Street
Pennygraig
Tonypandy
Mid Glamorgan CF40 1PQ
Tel. (0443) 435709/434846

Colleen Music Compendium

Incredible Integrated Music Package for the Atari and Commodore Range of Computers.

Suitable for Beginners and advanced users alike!

£29.95

THIS DOUBLE-SIDED DISK CONTAINS:—

SIDE ONE: NO BLOCKS FREE

MUSIC THEORY: This comprehensive theory of music enables you to understand the fundamentals of music.

GUITAR TUTOR: Teach yourself guitar from the comfort of your own home. Covers all the chords found in today's popular music charts.

SOUND CHIP TUTOR: All you need to know about programming the sound chip in your computer — explained in such a way that even a novice can understand.

SIDE TWO:

PLAY ALONG: Amaze your family and friends by providing real time accompaniment to the songs of your choice. Provides backing in four musical styles in every key!

DRUM MACHINE: Program your own drum patterns with the help of this exciting utility. Drum away for up to two hours — but mind the neighbours!

COLLEEN MUSIC CREATOR: Specifically designed to create super efficient complete machine code music programs. Tunes created and run independently of the creator which in turn can be marketed without ANY restrictions. This could be your chance to make money!

Tunes are played back using multi-tasking features normally associated with 16-bit machines — this means you can have two programs running together.

JUST LOOK AT SOME OF THE FEATURES:

■ Joystick controlled ■ Icon driven ■ Full synthesiser control over each and every note from a 2000 note sequencer using any combination of voices ■ Full editing facilities with an option of superimposing sound effects over your polyphonic music ■ Full after-sales support and comprehensive manuals provided ■ Special conversions for the disabled.

cheques or postal orders (payable to COLLEEN LTD) to:
COLLEEN LTD., Colleen House, 18 Bishop Street, Penygraig, Tonypandy, Mid Glam CF40 1PQ

I enclose cheque/postal order for £ .....

Signature .....

Name .....

Address .....

.....

..... Post Code .....

Any other information required about COLLEEN LTD, write to the above address or telephone (0443) 43 5709/434846

Telecom Gold. Mail Box 72 MAG 95347 Telex 265871 MONREF G quoting Reference 72 MAG 95347. PRESTEL Page 24733026

Feature

THE GRAPHIC ADVENTURE CREATOR

Deep in the heart of the mountain huge
terrifying shadows seem to lurk in every
corner. The tunnel you are in continues
east and south. Another tunnel winds
away across a seemingly bottomless
crevasse. A small snake is sleeping in
its favourite crannu.

Is one picture worth a thousand words? Adventurers are often divided. Some love illustrations, others, the purists, stick only to text. Graphic Adventure seems inevitably to increase. And for those who like to design them, there are very few packages to help out. There is now a new one — GAC. Julian Rosen examines it.

Before GAC came The Quill which met with incredible success. Although quite old, The Quill is still being widely used, and there is even a section on Compunet, the 64 network, devoted to Quill'd adventures.

Being newer, and having the advantage of hindsight, Incentive have managed to produce a product that is both powerful and relatively easy to use Unlike the Quill, GAC has the built-in facility to include graphics with the room description via a quite powerful graphics editor that even allows you to set up simple animation sequences. You can have about 25 good quality pictures in an average sized adventure.

Writing a GAC adventure is rather like writing a program. GAC has its own language with which you design the game. Don't start groaning; it really is simple to use, and is very straight-forward in its syntax. Just as an example, a single-location 'game' could be written in about 20 seconds. First you press 'R' for Room. Then '1' for room number 1. Then you type in the room description, 'A mouldy Cave'. Hit '←' to retun to the menu, and then 'F1' to start your newly-finished game.

A deep moat to the east surrounds a
fortress of titanic proportions. A
cave from which you came lies to the
north and you can just see a doorway
inside the castle archway across the
lowered drawbridge.

The words 'A mouldy Cave' will appear, followed by a user-definable prompt, which in this case is the default 'What now?' As you can see, it is very easy to set up locations. Implementing puzzles is another matter.

For puzzles, you have to set up conditions. Let's imagine a scenario. Room one will have an exit to the south, to a Bazaar. At the Bazaar, you'll be able to pick up a Magic Oracle. On going north, carrying the Oracle will enable you to go through a secret door which will appear to the West. Firstly you'll have to set up an object called 'A Magic Oracle'. Then

You find yourself in a boulder-strewn
valley on the bank of a turbulent
freshwater stream. Standing before you
is a small but sinister-looking stone
bridge that crosses the water from west
to east and leads to a shadowy cave
entrance in the mountains beyond.

you'll have to define a few local conditions for room one. If carrying the Oracle, then give message 'A secret door appears to the West'. Have I given that message before? If yes, then display 'There is a secret door to the West'. Then allow movement to room three to the West, 'The Wizard's Chamber'. If you can think logically, then writing an adventure using GAC is a simple, if slow process. Don't however embark on a large project before having written down all the locations, the descriptions, and their associated puzzles.

There is a pre-defined file containing the most used verbs and nouns which is pretty comprehensive. Undoubtedly you will want to add your own through, and this is very easy to do. You just type in the new verb in a list displayed with the 'v' command. By using the programming language, you can then test for verb #x whenever you want to. Adverbs and nouns work in a similar manner.

Messages can be displayed at any point in the adventure, and of course are user-definable like the rest of GAC's features. Up to 255 messages may appear at any one point in your adventure. These messages are called up by number from the lines of GAC codes that you've programmed.

There are three types of conditions: Local, low priority, and high priority. To illustrate this, here are three lines of GAC codes.

Assuming that market one is a light/dark pointer, then: IF (VERB 3) RESE 1 GOT 2 WAIT END would, if you typed EAST (verb 3 is East) rest the light/dark pointer, goto room 2, and wait for a new command. This is a local condition.

IF (VERB 20) MESS 249 PRIN CTR 0 MESS 250 PRIN TURN MESS 255 WAIT END would, if you entered Score (verb 20) print message 249, print your score, print message 250, print the number of moves you'd made, and then finally print message 255 and wait for a new command.

IF (RES ? 6) SET 6 STR 111 3 CSET 1 ENd checks to see if marker 6 is reset (if this is the first move). It then set marker 6 to say that this isn't the first move any more, and set the strength and counter to hold value 3.

As you can see, writing GAC may take a while to get used to but is essentially very simple once you get the hang of it.

This is a really great product, and I'm sure that Level 9 might want to take a look at it. It is professionally programmed although I think the documentation is a little sparse. After a few days practice you'll be able to roll of adventures easily, as long as you've designed them first on paper of course!

Very highly recommended.

Price: *£22.95c/£27.95d*

Contact: *Incentive Software Ltd, 54 London Street, Reading RG1 4SQ. Tel: 0734 591678.*

EAT YOUR HEART OUT LEVEL 9!

Organised by
Database Exhibitions

Now the great record-breaking Commodore Show moves North

Renold Building, UMIST, Sackville Street, Manchester

Friday to Sunday, September 12, 13 & 14

The Official Commodore Computer Show – the show that hit the headlines when it attracted record London crowds in May – now moves North, with lots of bargain offers from leading suppliers of Commodore hardware and software. Spread over two exhibition floors will be stands featuring the very latest developments for the entire Commodore range, including a wide variety of newly-released games, business and utilies software. It's going to be an action-packed show that will bring you right up to date with all the many exciting developments now taking place in the Commodore world!

TWO WALK-IN THEATRES

AMIGA THEATRE
Demonstrations of the most talked-about computer of 1986, showing the growing range of business and recreational software.

8-BIT THEATRE
Leading Commodore experts show how to make the most of the 16, 64 and 128 range, answering questions on games, graphics, utilities and communications.

PLUS! ***Live shows from top groups – Commodore music as you've never heard it before!***

On show for the first time outside London – the fabulous Amiga!

EASY RAIL TRAVEL!
300 yards from Piccadilly railway station, with speedy connections from all parts of the North, Midlands and Wales.

EASY COACH TRAVEL!
Bus and coach stations serving all parts of this vast region are just a short walk from the UMIST campus.

EASY PARKING!
No problem finding somewhere to park – either within the campus itself or nearby car parks.

Avoid the queues!

Get your ticket in advance and...

SAVE £1 A HEAD!

☐ Adult tickets at £2 (save £1) ..... £____

☐ Under-16s tickets at £1 (save £1) £____

Total £____

☐ Cheque enclosed made payable to Database Publications Ltd.

☐ Please debit my credit card account

Access/Visa

____ ____ ____ ____

Admission at door:
£3 (adults), £2 (under 16s)

The 8th official Commodore *computer show*

Advance ticket order

Post to: *Commodore Show Tickets, Europa House, 68 Chester Road, Hazel Grove, Stockport SK7 5NY.*

Name .....

Address .....

.....

..... Signed .....

PHONE ORDERS: Ring Show Hotline: 061-456 8835

Please quote credit card number and full address + Ref CCI 9

THE ULTIMATE UTILITY FOR YOUR COMPUTER

SPEECH!

NO EXTRA HARDWARE REQUIRED

AS REVIEWED ON BBC TV

FOR THE COMMODORE AMSTRAD AND BBC COMPUTERS

COMMODORE 64/128
Cassette **£9.95**
Disc **£11.95**

AMSTRAD CPC464/664/6128
Cassette **£9.95**
Disc **£14.95**

BBC MICROS: B, B+, Master
Cassette **£9.95**
Disc **£11.95**

THE RECENTLY RELEASED BBC MICRO VERSION HAS BEEN GREETED WITH ACCLAIM AND INCREDULITY:—

At last, speech synthesis at a price you can afford. SPEECH! works entirely in software taking up less than 9K of RAM: no extra hardware whatsoever is required. Unlike other systems, SPEECH! has an unlimited vocabulary: it will say anything you want it to, and is simplicity itself to use. Simply type in: ***SAY I AM A TALKING COMPUTER, AS EASY TO USE AS 1 2 3...** and the computer speaks.

SPEECH! has a built-in parser which translates English words into "phonemes", or speech particles. There are 49 phonemes and 8 different pitch settings which can be used directly by the *SPEAK command (e.g. *SPEAK/HEH4LOW4) so stress or intonation can easily be added wherever desired. You can change the overall pitch with the *PITCH command.

Every copy of SPEECH! comes complete with extra software:
DEMO — shows off all the features,
SPELL — an innovative educational program,
SAYFILE — speaks the lines of your programs.

Applications in:
- games
- education
- business
- utilities

REVIEWS ON BBC-1 AND BBC-2 TV

Saturday Superstore (BBC-1)
"This is knockout! This is great!...Wonderful! Very, very clever."...Fred Harris

Micro Live (BBC-2)
"Really good value!"...John Coll

REVIEWS IN THE COMPUTER PRESS

"The reproduction is suprisingly good, and certainly on a par with some of the more expensive speech interfaces I have heard. An excellent low cost speech synthesiser that really is very good value for money."...ACORN USER

"...incredibly easy to use. The end result is as good as anything I've heard this side of the Amiga."...POPULAR COMPUTING WEEKLY

"Overall an excellent package"... MICRONET 800.

"This is one utility which cannot be beaten on quality or price"...The MICRO USER.

"SPEECH! from Superior Software is a truly remarkable offering. A rare gem indeed. Superior Software has produced a price breakthrough by achieving an apparent technical impossibility."..:. A & B COMPUTING.

OUR GUARANTEE
- All mail orders are despatched within 24 hours by first-class post.
- Postage and packing is free.
- Faulty cassettes and discs will be replaced immediately.

Access VISA

24 HOUR TELEPHONE ANSWERING SERVICE FOR ORDERS

SUPERIOR SOFTWARE Limited

Dept. SP12, Regent House, Skinner Lane, Leeds LS7 1AX. Telephone: 0532 459453

WE PAY TOP ROYALTIES FOR HIGH QUALITY SOFTWARE

Speech

by Superior Software

Here's another software speech package this time from Superior Software. Speech was first launched on the BBC micro in December '85 amidst much acclaim, because nothing quite like it had ever been seen before for the beeb.

On the 64 however, there have been several software speech packages out now for some time. Software Automatic Mouth (S.A.M.) was the first and came out in very early days. Automata Software also produced a package that wasn't quite as good and Cheeteh had a popular one.

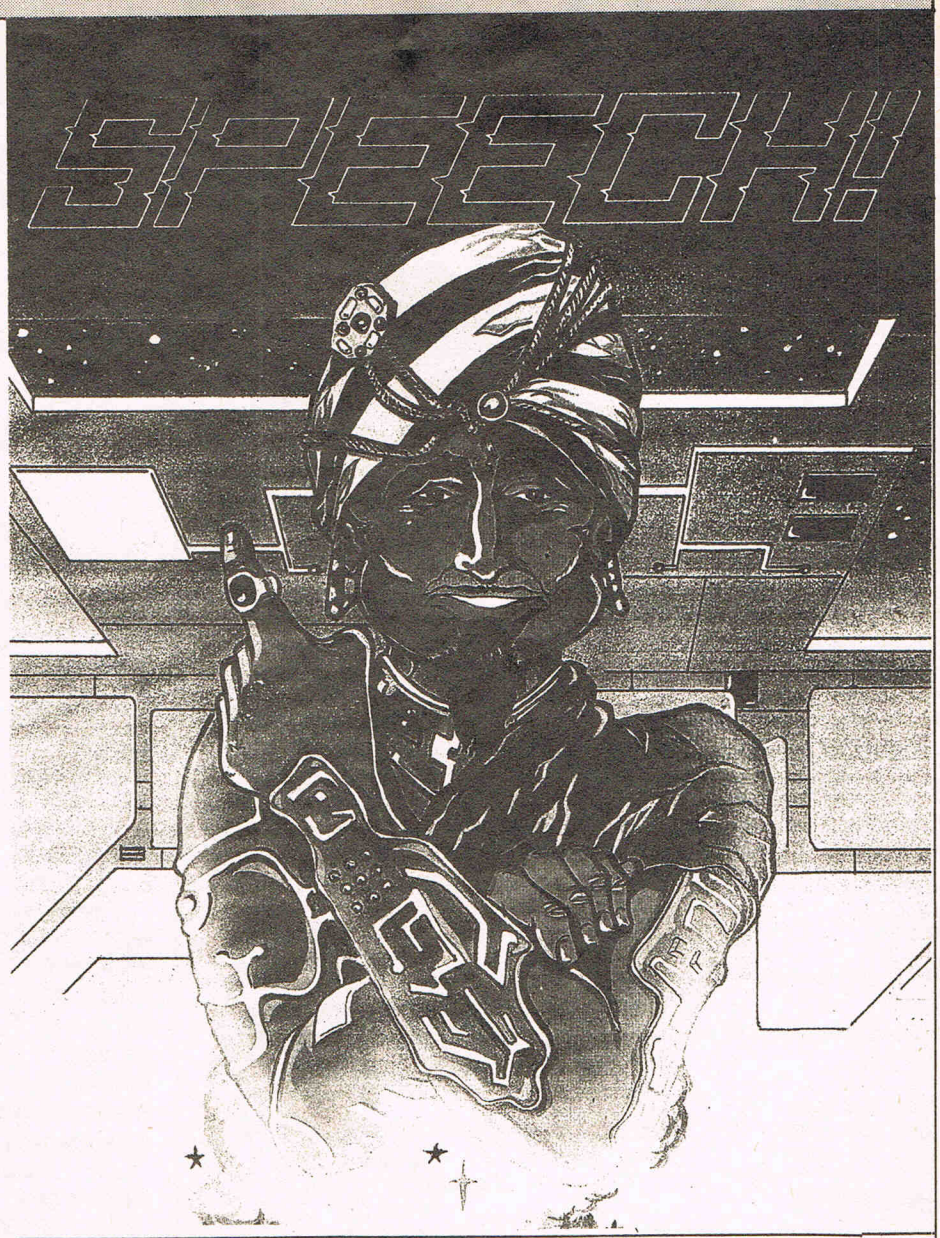
Speech is a 9k program that produces speech (or a distant cousin . . .) without the aid of extra hardware. It utilises only the built-in sound capabilities of the 64. By using the SAY command you can make it say straightforward English sentences. It automatically translates your text into the 49 phonemes that make up the English language, and passes them through its own parser to produce the speech.

Speech can easily be used in your own programs, simply by using the SAY command. Pitch can be altered with the PITCH command, enabling you to add inflection to the speech pretty easily. You can switch the display of with the OFF command which improves the quality of the speech quite considerably.

This is a pretty niffty little program that could have quite a variety of uses. It might be an idea for adventure writers to include it in their adventures, as the text to speech facility would take about 10 minutes to implement by a competent programmer. And I'm sure there are loads of other uses too. I am surprised that more people don't know about and use this kind of package. Speech is so easy and fun to use that I'm sure it will achieve greater success than other packages I tried. It certainly deserves too. **Highly recommended for anyone in sound. Interested.**

Price: £9 9.95c £11.95d
Contact *Superior Software Ltd*
Regent House
Skinner Lane
Leeds LS7 1AX
Tel: 0532 459453

'Speech' is very easily used. You just need to type in the phonetic version i.e. how it sounds, and your 64 and 128 understands and repeats it aloud



PHONEMES (49 in total)

PHONEME	ENGLISH EXAMPLE	*SPEAK EQUIVALENT		PHONEME	ENGLISH EXAMPLE	*SPEAK EQUIVALENT	
		Vowel Sounds					
AY	pale	PAYL		OW	coat	KOWT	
AE	black	BLAEK		O	cot	KOT	
AA	car	KAAR		UX	coot	KUXT	
AI	fair	FAIR		OY	voice	VOYS	
				AW	now	NAW	
EE	meet	MEET		AO	door	DAOR	
EH	get	GEHT		OH	won	WOHN	
ER	perk	PERK					
				UW	you	YUW	
IY	site	SIYT		/U	put	P/UT	quiet "u"
IX	sit	SIXT	short "i"	UH	wood	WUHD	
IH	sit!	SIHT	long "i"	AH	up	AHP	
		Consonants					
B	bat	BAET		N	nap	NAEP	
D	dab	DAEB		P	pat	PAET	
F	fat	FAET		R	rat	RAET	
G	gap	GAEP		S	sat	SAET	
/H	hat	/HAET		T	tap	TAEP	
J	jab	JAEB		V	vat	VAET	
K	cat	KAET		W	wag	WAEG	
L	lag	LAEG		Y	yap	YAEP	
M	mat	MAET		Z	zap	ZAEP	
		Special Sounds					
CH	chair	CHAIR		CT	fact	FAECT	
DH	this	DHIXS		DR	dragon	DRAEG/UN	
SH	share	SHAIR		DUX	duke	DUXK	
TH	thick	THIHK		NX	sing	SIHNX	
ZH	azure	AEZHAOR		TR	track	TRAEK	

MICRO MEDIA Computer Supplies

0707 52698 or 0707 50913

Rydal Mount, Baker Street,
Potters Bar, Herts EN6 2BP

UNBRANDED 5¼" DISCS

Certified lifetime warranty
hub rings, envelopes, labels

Prices per 10 Discs	Tracks	10+	30+
SS/DD	40	7.50	6.80
DS/DD	40	9.00	8.20
DS/DD	80	9.50	8.70

3M 5¼"		Lifetime	Guarantee
SS/DD	40	11.90	11.60
DS/DD	40	14.00	13.70
SS/DD	80	17.50	17.00
DS/DD	80	18.70	18.00

3M 3½" TPI			
SS/DD	135	21.90	21.00
DS/DD	135	30.20	29.40

VERBATIM DATALIFE			
SS/DD	40	12.80	12.40
DS/DD	40	15.80	15.40
SS/DD	80	15.80	15.40
DS/DD	80	20.50	20.10

COMPUTER LABELS

Continuous fanfold sprocket fed	Price per 1000 1,000	2,000+
70 x 36	4.40	4.00
89 x 36	4.50	4.10
89 x 49	6.20	5.70
102 x 36	4.70	4.40

Please state no of labels across sheets (1 2 or 3)

9½" BACKING SHEET FOR FIXED TRACTOR

	2,000
70 x 36 3 across	4.00
89 x 36 2 across	6.60
102 x 36 2 across	6.70

ENVELOPES

	Boxed	Price per box
110 x 220 4¼x8⅝ White Self seal 90gsm	500	11.90
Manilla Banker Gummed 70gsm	500	9.90
Bond 324x229 12¾"x9" Manilla self seal 90gsm	250	17.90

COMPUTER PAPER

Plain, fanfold, micro perf edges

Size	Weight gsm	1000s per Bx	Price per box 1 box	2 Bxs+
11 x 9½	60	2	13.00	12.20
	80	2	16.20	14.60
EXACT A4	70	2	21.50	18.90
11⅞ x 9¼	90	1	13.70	11.50
EXACT A4 Fixed Tractor Feed				
11⅞ x 9½	80	1	16.75	14.20
	100	1	29.00	27.50

5¼ DISC DOUBLER

Save money by utilising the reverse side of single sided discs.

5.50

SWIVEL BASES

FOR MONITORS

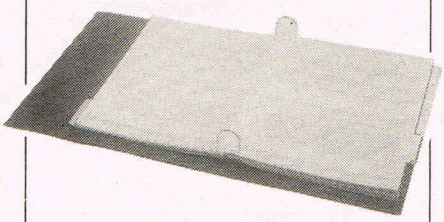
Pan tilt revolves around 360°
12.5° tiltable up and down
Adjustable by inside screw.

12" MONITORS	£14.00
14" MONITORS	£16.00

COPY HOLDERS

Adjustable arm desk clamping
£18.00
Desk top with detachable line guide
£11.00

PRINTOUT BINDERS



Adjustable hardback ring binder
for 11 x 9½ 12 x 9¼ con't paper
40mm paper capacity
BLUE RED or BLACK
£4.90 each
set/5 indexes £2.30

PRINTER RIBBONS

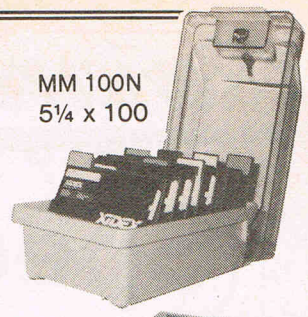
Mixed types for quantity breaks, 1 & 2 off's if ordered with other products.

	3+	6+
COMMODORE 1516/1526/4023/ MPS802	4.00	3.20
2022/4022	3.00	2.60
Red Brown Blue	4.20	3.50
8023p/MPP1361	3.00	2.70
MPS801	3.90	3.30
VIC1515/1525	2.95	2.40
DPS1101	2.50	2.10
MPS1000	3.00	2.60
MPS 803	3.70	3.20
CANON PW1156/1080	3.40	2.90
Red Brown Blue	5.30	4.70
CENTRONICS G.L.P.	3.70	3.20
DAISYSTEP 2000 M/S	3.10	2.60
Fabric	4.90	4.20
EPSON FX/MX/RX 80	3.00	2.60
Red Blue Brown	4.20	3.50
LX 80	3.00	2.60
Red Brown Blue	4.20	3.50
JUKI 6100 MS	2.50	2.10
6100 SS	1.60	1.30
Red Brown Blue	2.50	2.10
KAGA KP810/910	3.40	2.90
Red Brown Blue	5.30	4.70
M/TALLY MT 80 M/S	4.00	3.20
NEC PC 8023	3.60	3.00
OKI 80/82	1.60	1.30
Red Brown Blue	2.40	2.00
PANASONIC KPX 110	7.50	6.30
QUENDATA 2000 MS	3.10	2.60
Fabric	4.90	4.20
SEIKOSHA GP 80	2.95	2.40
GP 100/250	2.95	2.40
GP 500	3.90	3.30
SHINWA CP 80 M/S	4.00	3.20
SMITH CORONA		
EL 1000/2000 M/S	8.50	7.90
Fabric	3.90	3.60
Correctable	5.00	4.70
STAR GEMINI 10x 15x	1.60	1.30
Red Brown Blue	2.40	2.00
NL 10	5.60	4.90
WALTERS VM 80 M/S	4.00	3.20

If the ribbon you require is not listed ring 0707 52698 and let us quote

DISC MAILERS

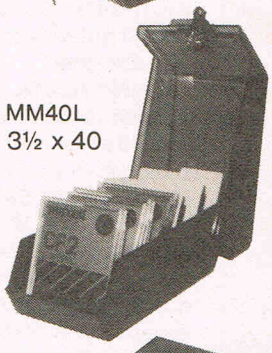
	Price each	50+	100+
Rigid Cardboard holds up to 3 discs		40p	28p



MM 100N
5¼ x 100

MM 70L
5¼ x 70

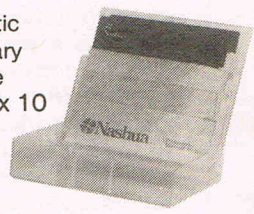
MM50L
5¼ x 50



MM40L
3½ x 40

Rexel Mini
Disc Box 30.

5¼ x 30
Brown smoked
Tilt lid. Cream plastic base



Plastic
Library
Case
5¼ x 10

DISC BOXES

MM 100	5¼ x 100	11.90
MM 70	5¼ x 70	10.90
MM 50	5¼ x 50	8.90
MM 40	3½ x 40	8.90
Mini Box Rexel	5¼ x 30	5.00
Library Case	5¼ x 10	1.50

All MM boxes anti-static with lock.

DISC CARE

5¼" Head Cleaning Disk with 15ml cleaning solution 5.50

● Educational and HMG orders accepted. ● Trade enquiries. ● Personal callers welcome.

ALL PRICES INCLUSIVE OF POSTAGE & PACKING
Please add VAT at 15%

24-Hour Credit Card Orders **0707 52698**

-MICRO MEDIA-MICRO MEDIA-MICRO MEDIA-MICRO MEDIA-

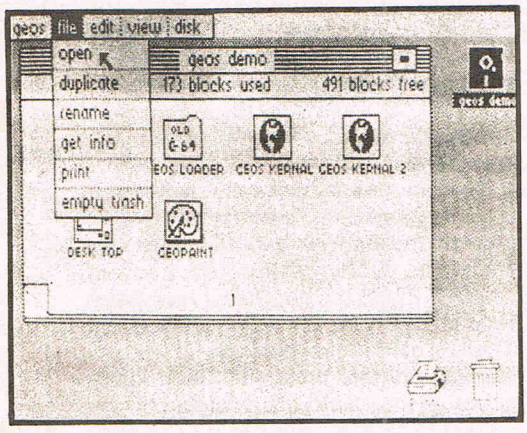
Feature

GEOS - WRITE

by Berkeley Softworks

Geos-Write is one of the bundled software packages that comes included on the GEOS system disk. The manual describes it as a 'sophisticated and powerful word processor', but although it does have some very advanced features, it lacks quite a few that could very easily have been implemented.

G-Write is booted up in the normal manner from the desktop, by clicking on the icon twice in quick succession. The program is then booted up fairly quickly, and you are asked whether you wish to quit, create a new document, or edit an existing one. Should you choose to edit an existing document, then a pop-up window appears with a list of files available. Highlight one by clicking on it, click on the OK box, and the file is promptly loaded in. Well, maybe not promptly, but then the 1541 isn't exactly renowned for its speed.



Once you have selected either new or existing document, G-Write places you in edit mode. From here onwards, the real user-friendliness of Geos, as with most graphic operating systems, becomes apparent. Instead of having to remember which key activates what command, you simply select a heading, such as STYLE, from the menu bar at the top of the screen. This brings down the style menu, from which you can select the style of your current font, such as underline, or bold. Note that more than one style can be combined, to provide underlined bold outlined text for example!

Not only can you select font style, but also the font itself. You have a choice from the FONT menu of your normal, boot up front, California, Cory, Dwinelle, Roma, and University. You can use all of these fonts in one document, and as long as you have a suitable printer, your document will be printed out just as it appears on the screen; fonts, styles, the lot.

You can also choose the size of your chosen font. The range of sizes depends on the font, but it could be anywhere from 8 to 24 pixels in size, and all text is proportionally spaced. Unfortunately, if you are using one of the more complex fonts in a large size, text entry and scrolling is painfully slow. This is because it is a scrolling in hi-res mode, and not character by character as other wp's do.

G-Write

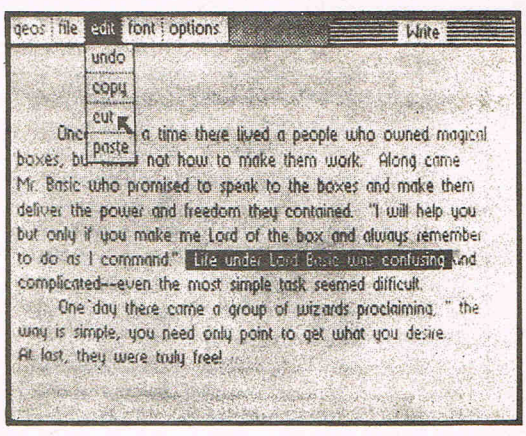
From G-Write, you can select one of six menus from the menu bar at the top of the screen. The Geos menu gives you a choice of desktop accessories such as the alarm clock. File allows you to recover, open, close files etc. Edit brings up a menu allowing you to cut and paste areas of text. Fonts and Styles I have already described.

To the right of the menu bar is the page indicator, which displays the current page number, and can also be used to point the viewing window to a different portion of the document. Next to the page indicator are the scroll arrows which allow you to scroll a page up or down, depending on the arrow you click on. The title bar, next to the scrolls arrows, shows the name of the current file being edited.

Below the menu bar is the ruler, and just underneath the ruler are the tab and margin markers. These can be set, using the ruler to find the position you need. Left and right margins, and eight tab independent tab stops can be defined.

One of the more advanced features of G-Write allows you to merge hi-res pictures from Geo-Paint, the accompanying graphic program. You simply load in the picture, position the cursor where you would like the picture to start, and select Paste in the Edit menu. Then select Photo from the resulting submenu, and the picture will appear, centred left-to-right. Luckily, the authors have realised that scrolling a document with a hi-res picture stuck in the middle is dreadfully slow, and they have provided the program with an option to hide pictures until print out. After Hide has been selected, the pictures are not shown on the screen, but are still held in memory. Space is reserved for them in the document, and when you come to printing out the document, the pictures are printed along with it. The Photo Manager desk accessory comes in very useful here. It lets you cut and copy graphics from any of the photo albums on the disk, to paste into G-Write documents, especially useful if you have a number of graphics to include.

The ability to select different fonts with different sizes, being able to type in different styles, and the ability to merge hi-res graphics into G-Write are very useful if preparing reports. Graphs can be incorporated, and text can be highlighted, or underlined etc. However, as I mentioned before, G-Write lacks several fundamental features that are commonly found on most wp's. There is no word count, facility, and the editing facilities are not tremendous, unfortunately. Although there is no mention of a spelling checker, I suppose that by using a desk accessory one could be written and included at a later date, as could many missing features. G-Write is ideal for the home, and for preparing reports, because of the graphic merge facilities and its ease of use, but as a serious word processor, it is not really adequate. Funnily enough, when the Atari ST was first released with its new GEM based word processor, First Word, it too lacked many common features, and a new version, much more powerful is being written. Lets hope that the authors of G-Write decide to re-write their wp, because despite my criticisms, it has a lot of potential and is nice to use. If G-Write is an indication of the power that GEOS makes available, then we could be set to see a whole host of new, sophisticated, serious, and powerful packages appearing on the now old 64. Geos, together with the repackaged 64C, could give the machine a whole new lease of life, and bring it a step higher towards serious users.


geos file edit font options
Write
undo
copy
cut
paste
Once a time there lived a people who owned magical
boxes, but not how to make them work. Along came
Mr. Basic who promised to speak to the boxes and make them
deliver the power and freedom they contained. "I will help you
but only if you make me Lord of the box and always remember
to do as I command." Life under Lord Basic was confusing and
complicated--even the most simple task seemed difficult.
One day there came a group of wizards proclaiming, " the
way is simple, you need only point to get what you desire.
At last, they were truly free!

Julian Rosen

Product Update

ScriptPlus

16 plus/4

I find it no surprise that word processing continues to be a popular means of occupying the time of a home micro — one only has to look at the success of Messrs Amstrad. The current range of word processor programs for the PLUS/4 are pretty thin on the ground so it was a pleasant opportunity to try out and review a word processor for my own PLUS/4 when SCRIPT PLUS turned up on my doorstep recently. Exactly why word processing should be so popular was succinctly expressed in a recent conversation I had exploring this point. We are, according to one view rapidly becoming a nation of illegible scribblers and that the art of handwriting is dying.

I must admit that I now find it relatively unthinkable to pen a letter by hand. Perhaps in my case it is because my printer represents the heaviest financial outlay on hardware or alternatively, I simply enjoy writing and word processing allows me to marshal and compile, record and edit my thoughts more efficiently than by hand.

I need hardly remind readers that the PLUS/4 did not represent originally a runaway commercial success. Most of the blame has been attributed to the price but the much vaunted '3 PLUS 1' software did little to mollify purchasers. Although Commodore attempted to redress the balance by bringing out operable software they seemed reluctant to tell us about it. SCRIPT PLUS was one of these packages and it has now been relaunched by PARASOFT a subsidary company of the originators, Precision Software Ltd.

Forty column display is not the best way to see exactly what the printer will produce. Looking at it another way, forty column display does allow a clearer format to the user, I am thinking here of children and those of us who could find reading eighty columns difficult. The programmers of word processors for the PLUS/4 have attempted two methods of circumventing this problem. One is to allow the user to type in text as it comes, then through the judicious use of format symbols embedded in the text the program will display using a separate screen from the main or text screen what the printer should output onto paper. This view screen cannot display the eighty columns of the printer so it operates on a sideways and downwards scroll.

On the C64 the familiar EASYSCRIPT works on this technique. The second method is a slight variation on the first. The user types the text and when the edge of the forty column screen is reached the whole screen scrolls in time with the text entry speed. In effect the user is already in the view printer screen mode and although the programmer is to be congratulated for this ingenious effort at overcoming the PLUS/4's display limitations, you have to contend with scrolling sidewards to see the start of the current sentence. The method is usually termed the 'what-you-see-is-what-you-get' (WYSIWYG) approach.

The SCRIPT PLUS package contains the 150 page User Manual and a cartridge. The documentation in the form of the User Manual is written to a extremely high standard. The manual is in two parts, the first being a series of tutorials on how to use SCRIPT PLUS, the second being a reference section. It also contains a number of appendices and an index. Also included are details of converting disk sequential files from other word processors, in particular EASYSCRIPT and EASYSPELL. This is a point well worth noting — the file portability facility particularly if you decided to change at a later date to, for example the C128.

The program after loading from the ROM presents a menu screen with options for the screen width, storage device and printer type. SCRIPT PLUS supports the use of dual drives such as the 4040 provided an IEEE interface is used — it does not support separate units i.e. it can only operate with one disk drive. The mode of operation is based on that of EASYSCRIPT with heavy use made of the function keys. The central control for SCRIPT PLUS is the conveniently placed ESCAPE key which places the user immediately into command mode but pressing the RUN/STOP key fulfills this function. There are 4 screens of help available immediately from the HELP key which make learning SCRIPT PLUS very fast.

The text format commands appear on screen as reverse video characters, which in a lot of instances are very similar to those used by EASYSCRIPT, although SCRIPT PLUS does wordwrap in forty columns. This avoids the scrolling window technique with the words chopped in half by the edge of the screen which can create difficulties in reading the text.

For the experienced user of word processors the range of text formatting with SCRIPT PLUS are very good. Constructed on sound EASYSCRIPT foundations, it has features such as view/-print alternate pages, selective headings and footings, detailed file handling and merging, columns and number tables, calculations on numeric data within a document. A new feature to exploit the PLUS/4 includes a separate text area allowing the user TWO documents in memory simultaneously. Had the PLUS/4 project been completely implemented by Commodore and the operating system included the speech facility, then SCRIPT PLUS would take advantage of this — it contains a speech command!

Complaints? None really since they must be more directed at the shortcomings of the hardware rather than this software. Considering the cost of SCRIPT PLUS the purchaser now has a very usable tool for word processing. There is no direct support given to Centronics printers from SCRIPT PLUS although interfaces are available on the market to cater for this if you run a non-Commodore printer. RS-232 and Commodore serial printers are those which will operate immediately with SCRIPT PLUS.

If you are the really adventurous type you can remove the ROM's from the cartridge board and use them to replace the abysmal '3 PLUS 1' software ROM's inside the PLUS/4 itself. I did this myself with my own PLUS/4 with complete success — obviously you need some experience with hardware to carry this through. The benefits of this give the user immediate access to a word processor from the function keys and provide a free cartridge port for another application such as a spreadsheet ROM.

Contact: PARASOFT Ltd.,
6 Park Terrace
WORCESTER PARK
Surrey KT4 7JZ.
Tel: 01-330 7166

CCI Orders go into a draw for 5 FREE CALC/PLUS

Plus/4 and C16 owners

WIN an AMIGA!

Buy ...SCRIPT/PLUS

ONLY £19·95 including VAT

PROFESSIONAL WORD PROCESSOR
Suitable for typing letters, reports, student essays, business forms, etc. Quick and easy electronic storage – no retyping – just edit and print out.

- From the authors of Easy Script – easier to use – more powerful – more facilities.
- Works with DISK or TAPE.
- Robust clip-on cartridge – uses no memory – *loads instantly*!
- Full featured system has all editing commands, disk commands, print preview, row and column arithmetic, mail merge, and on-line help screens.
- Works with all popular printers.

FAR SUPERIOR TO PLUS/4's 3-in-1 WORD PROCESSOR

Also available
CALC/PLUS
- Spreadsheet with 254 columns and 63 rows
- Cartridge
- Disk or tape
- Bar chart facility

£19·95
INCLUDING VAT
WHILE STOCKS LAST

PARASOFT LTD
6 Park Terrace Worcester Park
Surrey KT4 7JZ Tel: 01-330 6911

ORDER FORM – CLIP AND POST Plus/4 & C16 Only

- **Buy Script/Plus by 30 Nov 86 to enter in the Amiga prize draw – details with your purchase.**
- Please send ____ Script/Plus @ £19·95
- Please send ____ Calc/Plus @ £19·95
- Please send ____ Script/Plus with Calc/Plus @ £34·95
- Add 75p P&P per item

☐ Cheque payable to Parasoft Ltd
☐ Access ☐ Visa Card No: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Signature _____ Expiry date _____
Name _____
Address _____
_____ Postcode _____

Despatch within 24 hours where possible but please allow up to 28 days. CCI

FIRSTLINE SOFTWARE

Your firstline of supplies

Lowest Price — Best Service

Disc Drive Summer Sale

Enhancer 2000
free bundled software... **£115** + **VAT**

- ✻Commodore compatible
- ✻Super high speed
- ✻1 year warranty
- ✻Exceptional durability
- ✻Double density 5¼", 35 track
- ✻Direct drive spindle motor
- ✻Does not use any computer memory
- ✻Slimline vented case

FREE SOFTWARE

Masterwriter
worth £50, icon driven word processor — premium quality special import from the **USA**

All for **£115** add VAT and £5 p+p

5¼" Floppy Disc SALE

- ✻100% certification
- ✻top quality
- ✻lifetime guarantee

10 pack **£9.99** p+p 50p

- ✻double sided
- ✻double density
- ✻Incl. VAT

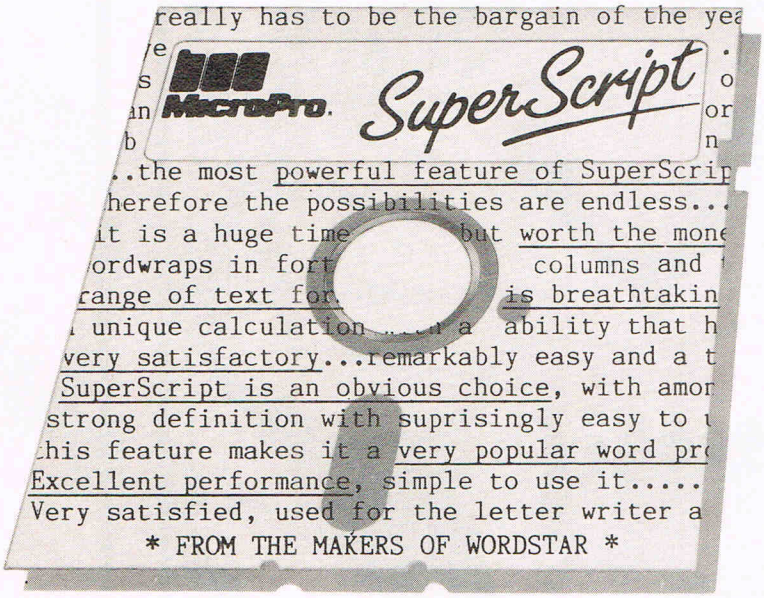
- **Enhancer 2000** all-in price £137.50
- Send cheque (R.E.Ltd.) or phone Access on 0480 213969
- 1 day express mail — £5 extra

R. E. Ltd.
206 Great North Rd.
Eaton Socon, St. Neots,
Cambs. PE19 3EF.

Don't queue — *Be first in line with* ***FIRSTLINE***

SAVE:SAVE:SAVE:SAVE:SAVE:SAVE:SAVE

WORDAHOLIC


really has to be the bargain of the yea
MicroPro. SuperScript
..the most powerful feature of SuperScrip
herefore the possibilities are endless...
it is a huge time but worth the mone
ordwraps in fort columns and
range of text for is breathtakin
unique calculation a ability that h
very satisfactory...remarkably easy and a t
SuperScript is an obvious choice, with amor
strong definition with suprisingly easy to
his feature makes it a very popular word pr
Excellent performance, simple to use it.....
Very satisfied, used for the letter writer a
* FROM THE MAKERS OF WORDSTAR *

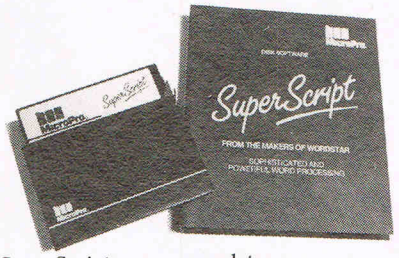
SUPERSCRIPT
WORDPROCESSING
From the makers of WORDSTAR

Most wordprocessing packages will do the bare minimum. SuperScript can't wait to do the lot!

JUST LOOK AT THIS WORKLOAD

Takes on	writing, storing and editing all your correspondence and other documents.
And	produces letters, invoices, price lists, contracts, labels etc.
Next	runs personalised mailings with lists or database output.
Then	creates and revises top quality presentations reports and tables.
On to	typing term papers, technical reports or notes.
And even	adds, subtracts, multiplies, divides and does percentages.
At the same time	giving all round editing and printing facilities such as block-cut-paste, insert and typeover, full search and replace.
Not to mention	print review, layout options and simplified document selection. And much, much more!

*** SPECIAL MAIL ORDER PRICES ***
COMMODORE 64, ATARI 800XL/130XE £49.95
COMMODORE 128, APPLE IIc/IIe £79.95
UPGRADE FROM EASYSCRIPT £39.95



SuperScript comes complete with Comprehensive User Manual.

ORDER NOW

By calling MicroPro on 01-879 1122 Ext 210
quoting your Access or Visa no.

Also available from all good dealers.

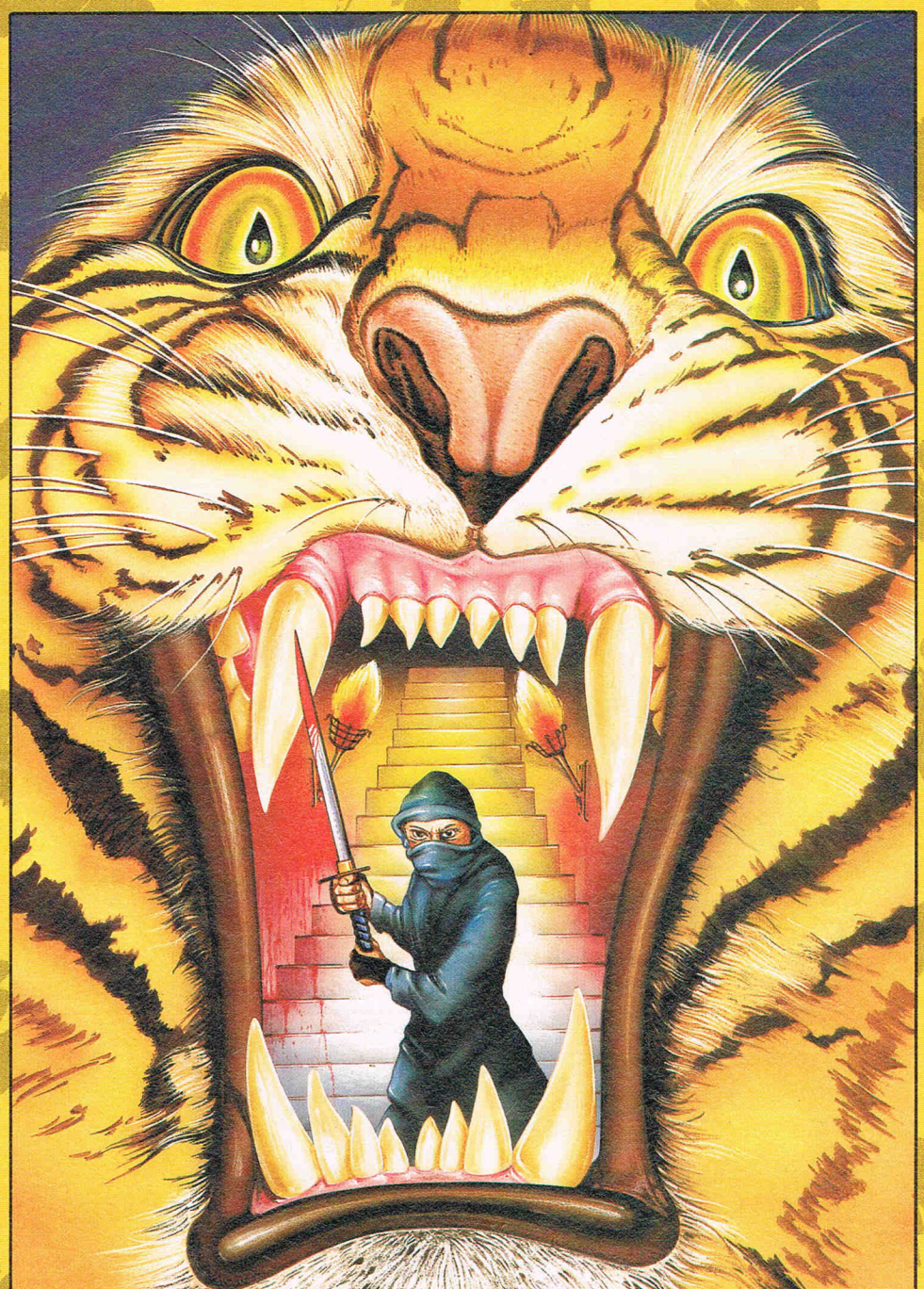
MicroPro.

UPGRADE FROM EASYSCRIPT TO SUPERSCRIPT – JUST £39.95

* Improved performance *
* Maths *
* Spelling checker *
* Print or view *
* Integrate with SuperBase *
(on Commodore 128)

To Dept CCI9 MicroPro International Ltd, Haygarth House, 28-31 High Street, Wimbledon Village, London SW19 5BY
Please supply the following: (All prices include VAT & Postage) QTY ____ SuperScript package(s), for computer (state model)
Commodore 64, Atari 80XL/130XE £49.95; Commodore 128, Apple IIc/IIe £79.95
QTY ____ † Upgrade for Easy Script £39.95 for computer (state model)
†(Your existing Easy Script disk should be returned with this order)
I enclose remittance for £ ____ (Cheques made payable to MicroPro International Ltd).
Or charge my credit card
Access/Visa No.
Signature
Name
Address
Postcode
Tel

THE WAY OF THE TIGER



Enter the world of Avenger, a Ninja warrior of unparalleled skills and deadly powers, as he battles the forces of evil in defence of his faith and protection of the weak.

Be calm and stay silent as the outstanding animation and unrivalled combat routines take you to levels of action you'd never have thought possible.

Experience the stunning effects of triple scrolling action as you master the techniques of Hand to Hand combat, Pole Fighting and the skills of the Samuri Sword.

And when you believe you've succeeded in overcoming all the odds, the next in this thrilling series of adventures will beckon you forward to a further challenge of death.

Cassette £9.95

Disc £14.95

MSX 64K Spectrum 48K Amstrad CBM 64/128

Gremlin Graphics Software Limited, Alpha House, 10 Carver Street, Sheffield S1 4FS. Tel: 0742-753423

Screenshots from Spectrum 48K

CAPTION COMPETITION!

SHOW US YOUR WIT!

Think up a caption for our illustration and you could win yourself some goodies. The best caption picked from our competition sack wins a CCI sweatshirt and the two runners-up will receive CCI T-shirts. Remember to state size required on your postcards!

Closing date: 15th October 1986.

Inside Info

Felix Says..... Well well well! Who said I'd never last! Here I am again and if you promise not to tell, I've got some tales for you!!

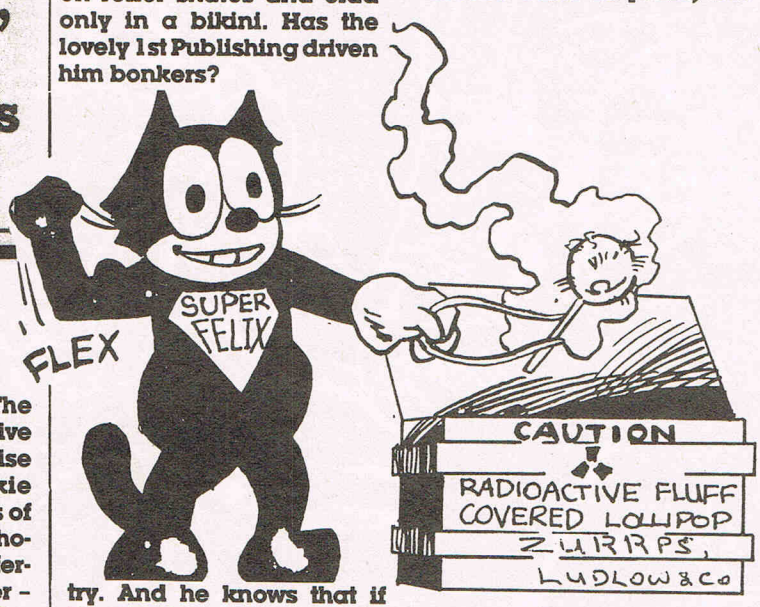
Felix Redivivus

As someone said, 'The Queen is dead. Long live the Queen' Felix (otherwise ex bank clerk Frankie Kafka) is no more (sighs of relief!). He is metamorphosised (get the classic reference now?). He is bigger – now 1 metre tall! Better (he can spell 'immediately') and knowledgeable (he knows everything about everyone. Yes, Sara and Pauline G, Pat and Amada B! And Jane C! He knows *all* your birthmarks). He also know who is the Joan Collins of the software industry. And he knows that if Birmingham (Alabama) gets the next Olympic Games it will be because US Gold lives there. So watch out world, here he comes – is it a bullet or is it a man – no, it's Super Felix! You, stop pulling that paper over your head! He knows who you are! And why!

FELIX SAYS....

Kiss me, Kate

My editor has been standing anxiously at the gate of CCI waiting for a delivery of a certain product from 1st Publishing. He refuses to move. It seems that the famous Sara Galbraith (otherwise known as the Pangbourne Peach) has appointed a gorgeous new Marketing Manager, Kate McGibbon, Miss Ayrshire 1985 no less. My romantic editor has somehow got it into his head that 1st Publishing's new star is going to deliver him their product on roller skates and clad only in a bikini. Has the lovely 1st Publishing driven him bonkers?



Grey Ham Baldock, internationally famed artistic genius from Oysterville, Essex, was known to have examined the beaches there for specimens. What would Oysterville beauty queen True Blue Janet say about this link between the Grey Ham, Max and Ad (or is that odd?) and 12-year-old Thai masseuses? Come on Jan, let's here the swear words!

Scandal

I thought you'd like a bit of internal (geddit?) CCI scandal. Max (no relation!) who is second in command of our million-strong ad sales force (they work from a villa in Monte Carlo with an answering machine that just says 'Sorry, no space left') has been seen wearing tee shirt form Pattaya. Our expert on the Orient, Sharon Wong, tells us that it is Bangkok-on-the-Sea, a sort of sleezy Costa Brava/Coney Island where there's no-one but tired businessmen and 12-year-old Thai girls. Max won't say who gave it to him (he hasn't left Monte Carlo in years) but

More Spitting!

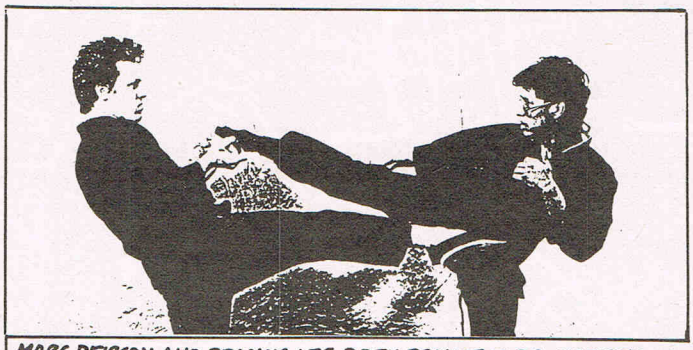
(Yuk! What a headline, Ed!) Oh Domark! Do you like trouble or do you just have two left feet? Can it really be true you've withdrawn your 'Spitting Images' game because of legal action? And are you really going to change its name to 'Split Personalities?' And are you offering full refunds for anyone in the universe who has ever heard the words 'Spitting' or 'Images'? If so, please send my lawyers a small cheque for £19 million or 5 million forints, whichever is worth more (what the hell is a florint?) for the promises I made to hold my breath till 'Splitting Images', sorry, 'Personalities' came out.

Cheapo Time

With Mastertronic crying all the way to the bank as stock market billionaiers and US Gold's Americanas bubbling away, the cheapo ranges are red hot. The latest is one from Elite. They're going to release one a week for the next ten years or maybe 3 months. At the announcement we got very tired and emotional at the idea — and the cheap £50 a bottle vintage champagne. And do we hear that Elite is now bosom pals with Alligata after they threatened legal action over Alligata's alleged 'Bombo' rip-off of Elite's 'Bombjack'. Shall I say that again or will there be legal action? Hic!

Psst! Wanna buy a software house?

Longtime software merchant Automata is not selling anymore software, but has because of financial problems put itself up for sale. Christian Penfold once known as the Pie Man, why, I can't say, blames advertising or rather lack of advertising success for Automata's downfall. He says his last ad in an unknown magazine called Computer Gamer (is this another figment of your sick imagination?–Ed.) did not produce a single reply! Perhaps he should have tried C.G.'s sister mag 'The Winemaker'.



MARC PEIRSON AND FRANCIS LEE, BOTH FROM THE BACK-OF-BEYOND, POSE FOR INTERNATIONAL KARATE FOR UNDER C16'S. PHOTO BY PAULINE (ENDURANCE) LARSDEN. (OR ARE THEY ARGUING ABOUT THE BILLIONS THEY'RE MAKING FROM VARIOUS TRIVIAL PURSUITS?)

Show me the way to go home!

We sent a spy to the Amstrad Show dressed as a cube of Sugar! We thought he might be rumbled, but no, everyone else was so square there that no-one noticed! He told us that on the second dayt it was so empty that stall holders – sorry, stand owners – were trying to sell each other things like radio aerials. On the first day apparently nobody under 61 was allowed in. Someone also told him that Amstrad disks are not being made in large quantities and are now so expensive that you pay £399.00 for a disk and get a computer free. But who wants an Amstrad even if it's free, Sugarbaby?

Going up the Walls

We've heard, in fact everybody's been shouting it at us very confidentially that a certain Mr Right, erstwhile active in Activision has been given the job of selling lollipops for a certain desperate publishing organisation. He promised to give us the fluffy low-down himself, but his efficient new organisation couldn't find our phone number. What *we* find most odd is the name given to the company – Thanatos, which our editor, a world-famous expert in Greek (grovel, grovel) tell us is a word for death. How very strange . . . can Mr Right have struck the wrong note? Or does he want to teach his grandmother to suck poison lollipops?

Jane loves Max

Jane Smyth, marketing Empress of Argus, is denying that her association with the fuzz is confined to parking tickets. Confirmation of this heated denial – it was a hot day – comes from a picture of her in a bobby's helmet and what appears to be an abbreviated uniform. Jane, who used to be a nun, is teetotal and normally known for her straitlaced view of life, also denies that she has fallen heavily for a certain Max Bedroom (no relation!). Can I hear wedding bells. Or is it all a load of Policeman's Balls, Janey Waney?

No more hack and slay day, Maggie

Lovely Level Nine's Margaret Austin is whispered to be talking of giving the coup de grace to the hack and slay adventures with 'Knight Orc' – the follow up in their 'Jewels of Darkness' trilogy. We hear that the end of the year will see this slasher of a game cutting down the opposition to size! We love Level Nine generally and we specially love the luscious Margaret, even though we hear she's emotionally involved with a spotty faced nit called A. Mole. And what about their new 'The Porn'? It's rumoured to outdo Sam Fox (no relation!).

Big Kick

Our correspondent at the CES Chicago Show told us the System 3's International Karate got the prize for the best action game. It appears the judges read CCI's 'Awesome' rating and didn't bother even to consider anything else. There's fame for you. Good on you too, System 3½.

Byeeeeeee ee! from the world's most famous cat, FELIX!

GRAVE NEWS (Sob!)

Alas, poor Frances,
We knew you well.
Too well for your own good.
Ah, how we miss the crunch of disks you've strewn the floor.
Nor does your skateboard crash the door.
Where are you fables of hospitals, marathon phone calls, direct line to the Winemaker, Ludlow, the Kremlin?
Just when you were amounting to something, JFK, you assassinated yourself.
As they say in Spanish,
What a shame.
(signed) S. Felix (aged 3½)

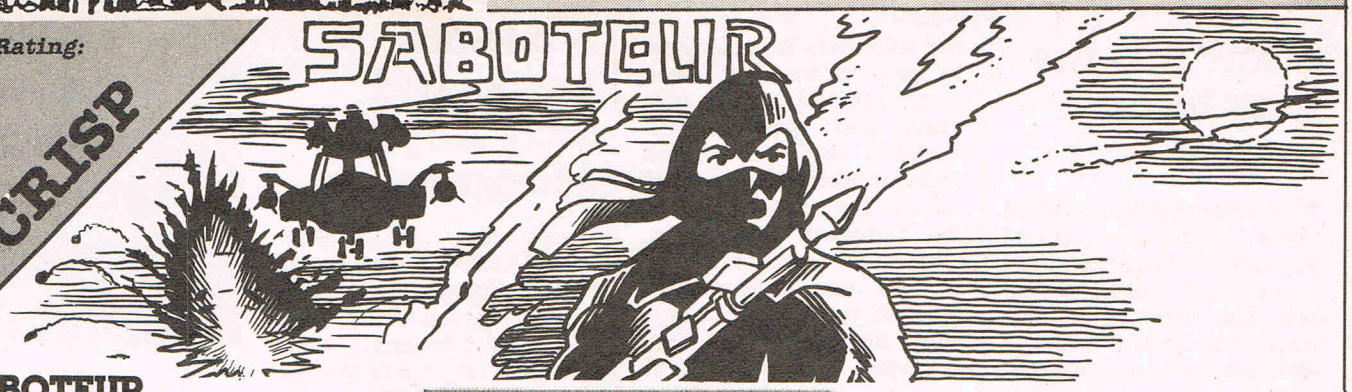
ENCYCLOPEDIA GALACTICA 3; MOVIE MANIA

ARE YOU REALLY...
OVER HERE MISTER SPIELBERGER
IS IT TRUE THAT..
SMILE PLEASE!
COD AND CHIP'S, TWICE. PLEASE.
...EXCEPT YOU. NOW, WHO WOULD YOU SAY HAS INFLUENCED YOUR CAREER THE MOST.
...UM?..
←PRESS ROOM
SUPER-HERO CHANGING
I'LL NEVER GET AN INTERVIEW AT THIS RATE, I DEFIN-ATELY NEED A PLAN OF ACTION.
PLAN 44 IN THE MULTI-PU--RPOSE BOOK OF INCREDIBLY DIABOLICAL PLAN'S. DRESS UP AS AN INCONSPICUOS BANANA AND KIDNAP THE REPORTERS.
SECRET CHANG FOR SUPER
ZIP
QUITE FASCINATING, CAPTAIN.
LATER, AT THE DAILY NEWS.
THIS IS FANTASTIC, KID. NOT ONLY DO YOU GET AN EXCLUSIVE INTERVIEW WITH STEVEN SPIELBERGER, BUT YOU'RE RIGHT ON THE SCENE TO COVER THE KIDNAPPING OF ALL THE REPORTERS.
SHEESH!
SPORT
ALRIGHT, NOBODY MOVE YOU'VE ALL BEEN KIDNAPPED.....
PTANG!
ZING!
PICK A CARD, ANY CARD....
NO, NO, NO. HAVE YOU SEEN THIS DUCK.
NEXT; THE DUCK HUNTERS.

MEGAREVIEW

CCI Rating:

CRISP

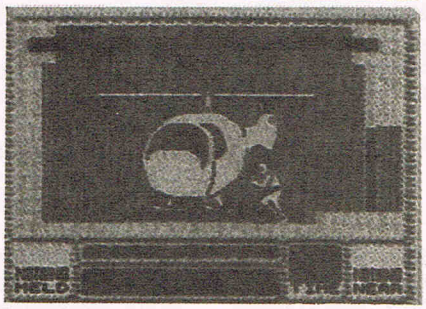


SABOTEUR

Here's another Spectrum conversion, and as with most conversions, doesn't really try to take advantage of the 64's facilities.

You've been hired to steal a data disk that contains the names of all the rebel leaders in the country (where we ask?), and you have to get it before its information is transmitted to all the outlying security posts. You've also only got a limited time in which to make your escape.

As you've been trained in the martial arts, you should have no problems getting passed guard dogs, armed guards and the like, if it weren't for the numbers of them. This is an exceedingly difficult game!



You start at the end of a jetty, after climbing out of your rubber dinghy. Then you have to avoid dogs, guards and automatic weapons guided by wall-mounted cameras. Some doors are locked, but you can use the computer terminals that are strewn about to open them.

Once you've successfully obtained the disk, and blown up the computer centre with a time bomb picked up along the way, you've got a journey upwards to the roof where a helicopter is waiting to whisk you away to safety.

A sort of game, with rather few sound effects and difficult to play. Quite fun, though, because of its challenge and the skill needed to complete it.

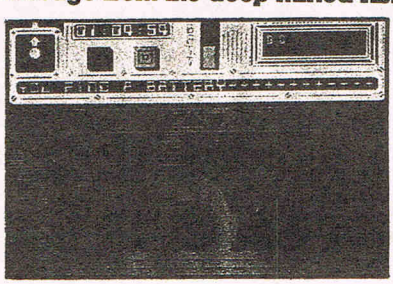
Price: £9.95
Graphics: ★★★
Sound: ★★
Playability: ★★★
CCI Rating: CRISP

CCI Rating

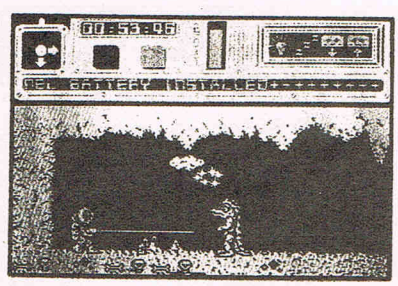
IFFY

Core

You have just received a distress message from the deep mined Aste-



roid settlement of EROC 1. All human life as we know it is threatened (what again!–Ed). You must find out what is going on. There you have the basis for A'N'F's new arcade adventure, Core. You play Andrew Angello, the hero (!) of the plot and you must go immediately to EROC 1. When you get there you find that there is no one left with the state of life in them. (Sounds like that party you took me to–Ed.) Computer prognosis suggests that EROC 1 had suffered an alien attack. Your mission is to search the caves of EROC 1 and try to find all the pieces of the bio-memory unit and



return it to the mothership for analysis. Core has a very large playing area, of over 1000 screens. Graphics of each cave are quite good but are rather repetitive. They are monochromatic and they work reasonably well. With the amount of screens and action it involves, Core is a game that can keep you entertained for a long time. If you enjoy puzzle solving games then probably Core is for you but I found it a bit too repetitive to be enjoyable.

Price: £9.95
Graphics: ★★★
Sound: ★★
Playability: ★★
CCI Rating: Iffy

CRISP

SAMANTHA FOX STRIP POKER

You've seen her on page 3, you've seen her in the record charts, now see the large and lovely Samantha Fox on your 64! Martech have struck up another superstar tie-in deal. Sexy Sam has challenged you to a game of five card draw poker and she's pretty confident that you will not beat her. She has seductively promised to remove items of her clothing if you begin to beat her, but if she wins

back again, tough! She can put it all on again.

When the game has loaded you're presented with a credit screen and a smart Entertainer tune is played. When you begin the game, Sam is pictured wearing a hat, scarf & glasses. The computer will shuffle

and deal both players five cards. Unlike the specey version, you can only see your own cards. You can then bet on your cards. After this you and Sam can change any cards that you don't want. You may put back any or all of your five cards to try to gain a better hand. Changing the cards is called the draw and it is done when one players calls. Next follows rounds of betting on your five cards until someone calls again, the winning hand is then determined. When you have reduced Sam's cash the digitised picture will change, there are five in all. All the pictures are very good indeed. When you have finally beaten Sam and the final picture appears a wolf-whistle is heard and 'The Stripper' tune is played.

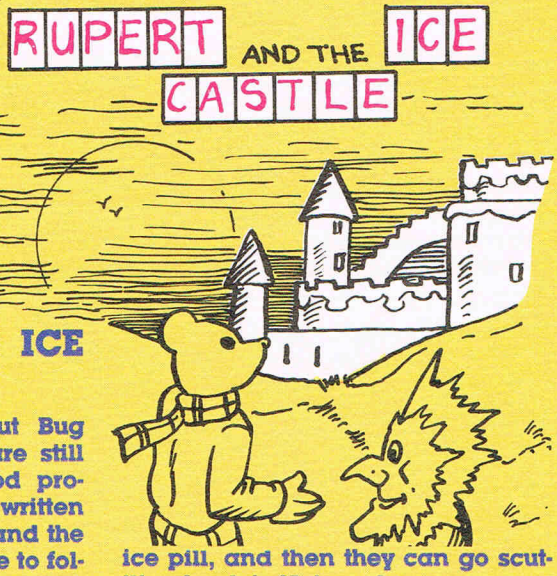
Strip Poker is a very good bit of programming by Martech and as you can use either joystick or keys it is very easy to play. Even if you know nothing about poker you will soon learn and maybe become quite good. I did. The sound and graphics are of first class quality and it does justice to both Sam Fox and Martech. The game is very playable and all your options are there in front of you and you just use the joystick to highlight the desired one. Another difference to the Specey version is that you can choose how much you raise the pot by. (05,10,15 or 20 credits). Overall we found it very enjoyable and well worth buying.

Okay so this is a game that could be accused of sexism, even exploitation but Sam is no slouch at exploiting her charms, too. And there could be a lot worse than a computer game.

Price: £9.95 (c) £14.95 (d)
Graphics: ★ ★ ★ ★
Sound: ★ ★ ★ ★ ★
Playability: ★ ★ ★ ★
CCI Rating: CRISP

CRISP

RUPERT AND THE ICE CASTLE



You don't hear much about Bug Byte these days, but they are still coming out with some good programs, even if this game was written for them by Taskset. Rupert and the Ice Castles is the latest game to follow the adventures of the intrepid Bear and his friends, this time on a visit to Jack Frost. Unfortunately, in Jack's Ice Castle, his sister Jenny has been up to her tricks again, and has laid several traps for the unsuspecting visitors.

Bingo, Edward Trunk, Algy, and Badger Bill have all been frozen by Jenny whilst they were visiting Jack, and Rupert, armed with some magic ice pills which will revive his friends, must find them in the Castle. Once he's found them, he gives them an ice pill, and then they can go scuttling back to Nutwood.

But things aren't that simple. Rupert has to avoid falling icicles, slippery skates, Jack-in-a-boxes, and snowmen. Each time he is hit by one of these, he has to take an ice pill himself, and when he runs out of ice pills, he too becomes frozen, and joins his friends! Level three contains some warm clothes that Rupert can pick up to help keep warm.

Graphically, the game's good. It is also pretty playable, and is quite good fun. The top of the screen displays a little rhyme, such as 'Rupert slides but must not fall (reference to the ice slides) to rescue Bingo from the Hall.' Underneath this are four boxes that display the picture of the friends you have rescued, and beneath this is the actual play field. A good game, though I think the programers might have made it a little harder.

Price: £2.99
Graphics: ★ ★ ★
Sound: ★ ★ ★
Playability: ★ ★ ★
CCI Rating: CRISP

MEGA REVIEW

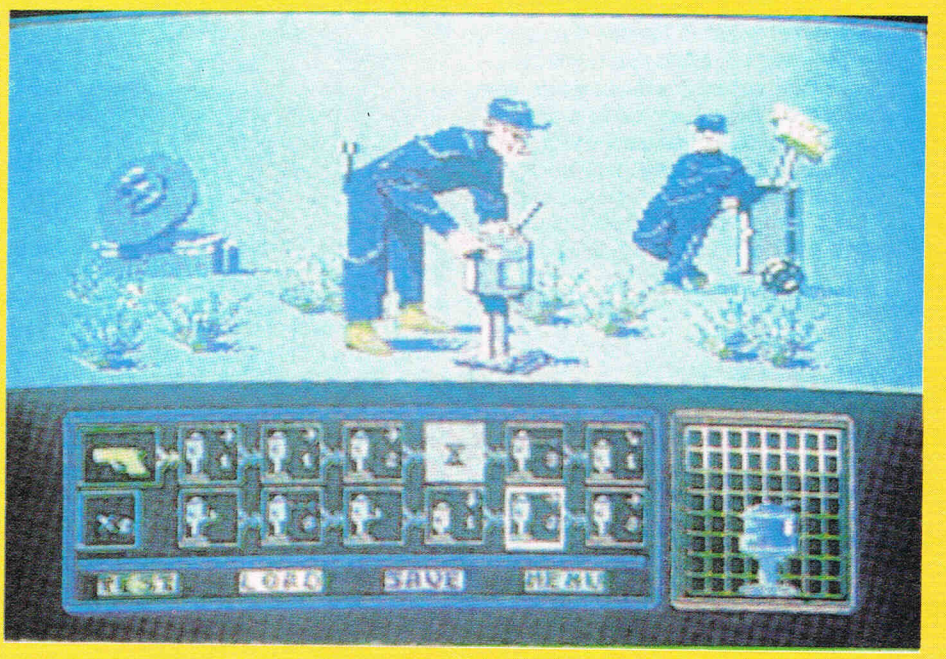
CCI Rating
AWESOME

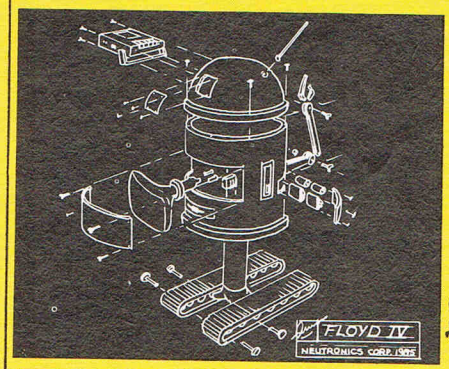
"THE WORLDS FIRST COMPUTER ASSISTED COMPUTER GAME."

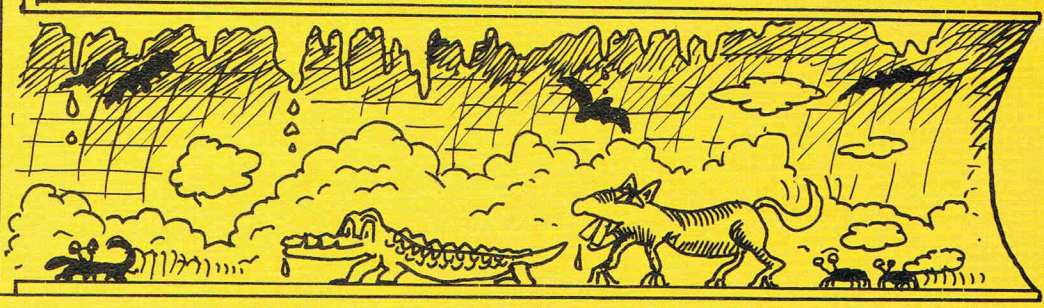
FLOYD THE DROID

Floyd is an IPDR-Icon Driven Programmable Robot who's job it is to repair and clean the sewers and waste disposal systems of some of the world's largest cities. Yuk! However, quite appropriately, the game starts in London, which in reality does need a sewage overhaul that would cost millions to complete. Floyd you're really needed!

In this chores, Floyd comes across a few nasties that block his way. Rats, bats, alligators (I always did wonder what happened to all those baby alligagors that got flushed down the loo when their owners tired of them) and hoodlums confront our IPDR. You have to device programs that will enable him to deal with these yucky beasts. You also have to plan the most efficient route through the sewers for Floyd to take, or you'll overshoot the time limit and be down in the sewers yourself!







To program him with these procedures, you select the procedure menu. This presents you with a list of options in the form of icons (the whole game revolves around them) which you change to tell Floyd how to meet certain situations, like bats or other nasties. This new procedure can then be tested, and if it works, entered into memory and saved. Bats can only be killed with a laser beam. Rats and alligators have to be jumped on, and if you encounter the armed criminal who wanders about, duck first, shoot second!

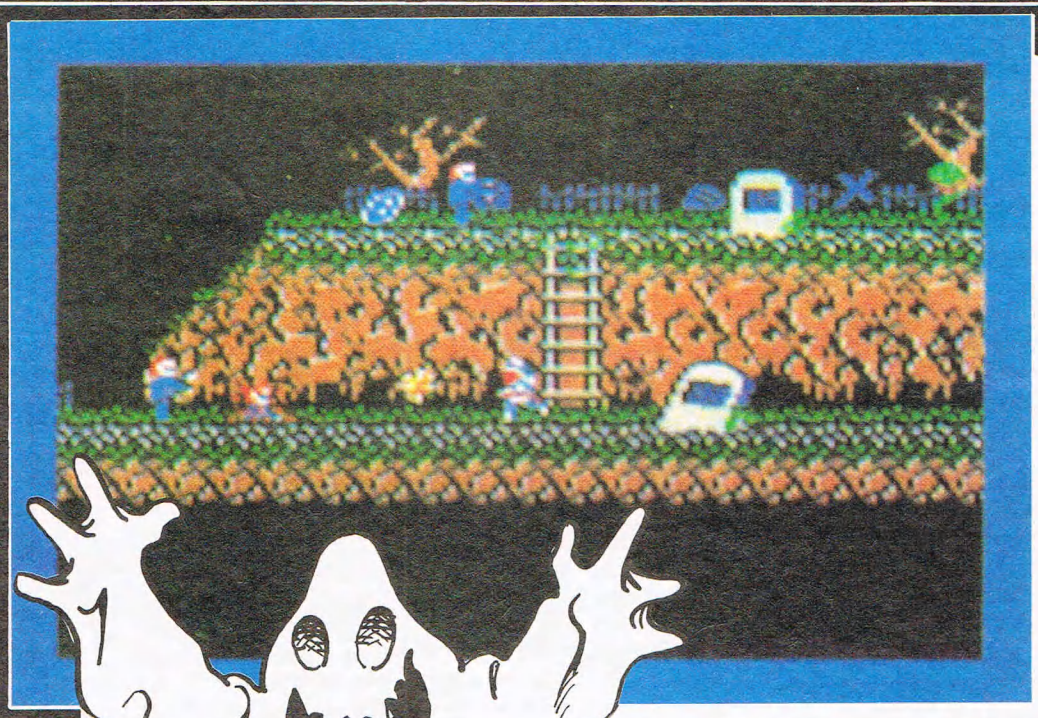
Floyd can operate in three modes: Manual, half-automatic, and fully automatic. In manual mode, you comand Floyd in every situation. Half-automatic mode allows Floyd to operate under his own control in an encounter, once you have told him what procedure to use. In full automatic mode, Floyde will automatically select the correct procedure instantly, and carry it out without prompting. Before this is done however, you have to program the procedures into Floyd.

For anyone, and that include CCI, who has been complaining of the sameness of so many hyped up games, this has got to be seen as one of the most original games to come out in years. It has in fact been on sale for some time in a number of countres, but has only recently been imported by Ariolasoft into the UK. Featuring great graphics, very lively sound effects, and a really good game, my only criticism is the instructions, which are far too brief for the complexity of the game. Definitely deserves a high place in the charts. It may not sound like a great idea (sewers?–Ed.) but it certainly will glue you to your 64.

Price: £9.95
Graphics: ★★★★★
Sound: ★★★★
Playability: ★★★★
CCI Rating: AWESOME

CCI Rating
AWESOME

GHOSTS 'N GOBLINS



Ghosts 'n Goblins

The 'in' thing as far as computer games go has always been arcade conversions. Some are successful, some are dismal failures. Most of the flops are because the software houses, in their rush to release the 'hyped up game of the year', fail to realise that some games are simply beyond the capabilities of the 64 (although with recent releases we see it being stretched well beyond previous limits). There are many arcade games that could quite easily be converted, but because they lack astounding, mind-blowing graphics, are not.

Ghosts 'n Goblins, however is something else. It is, without question, one of the most accurate arcade conversions I have seen to date. It features the same catchy tune as the arcade version, and the graphics are astonishingly almost indistinguishable as the money swallower. The original arcade game is one of my favourites, despite the fact that it lacks those 'astounding, mind-blowing' graphics that seem to be a necessity these days.

G 'n G is totally addictive. Its great, catchy little soundtrack, nice detailed graphics, bright colours, and fast moving action won't let you leave your 64. You'll forget food, drink and even sex! (Are you kidding? From what I hear CCI readers never forget sex!–Ed.) Some G 'n G moves must be timed to split second, so there really is a lot of skill needed to get anywhere. In fact, I was almost driven to desperation in my attempts to get past a rather vicious winged beastie that blocks the path to the second section of the game.

When you're running through the game, you have to avoid contact with the various undead persons wandering around the district (a graveyard to start with). If you get touched by one of them, you lose your armour the first time, and your life the second! Other nasties to contend with include fireball spitting serpents, witches, giants and some rather weired looking flying objects that could be wraiths . . . Altogether not the sort of company you'd choose to meet anywhere but on screen!

Ghosts 'n Goblins is an outstandingly magnetic game. Once you play, you'll be hooked forever! It is one of those compulsive 'one more go' games that are infuriatingly difficult, but only cause you to become even more determined to succeed in reaching the next section. This game should be a chart-buster. Awesome and then some!

Price: £9.95
Graphics: ★★★★
Sound: ★★★★
Playability: ★★★★★
CCI Rating: AWESOME

MEGA REVIEW

CCI Rating

CRISP

TRAP BY ALLIGATA

Tony Crowther has been absent from the games scene for some time now. He has in fact re-joined Alligata to write a shoot 'em up that he himself describes as the game he has always wanted to write; 'a fast testing arcade game that is utterly addictive.' Having liked all of Tony's previous games and admired their technical qualities and perfection I was really looking forward to playing his latest game, Trap.

Unfortunately, it did not altogether live up to my expectations. I expected a Crowther game to be really addictive, but found it, although challenging, to be ultimately more run of the mill in both quality and game-play.

In a distant corner of the galaxy, the human race struggles for survival. A once peaceful ally has turned aggressive, and you must decide whether 'mindless destruction and violent aggression' is justified in the name of peace. This is the 'Trap' that you are in.

You must defend your planet against these once peaceful allies and demostrate your reactions and skills of a legendary space-fighter. You face three tests.

In test one, your manoeuvreability and reflexes are tested to the full, dodging meteors and enemy fighters. In test two, you must demonstrate your courage and intelligence. In both one and two, all the aliens must be destroyed, otherwise you will not be able to continue to test three.

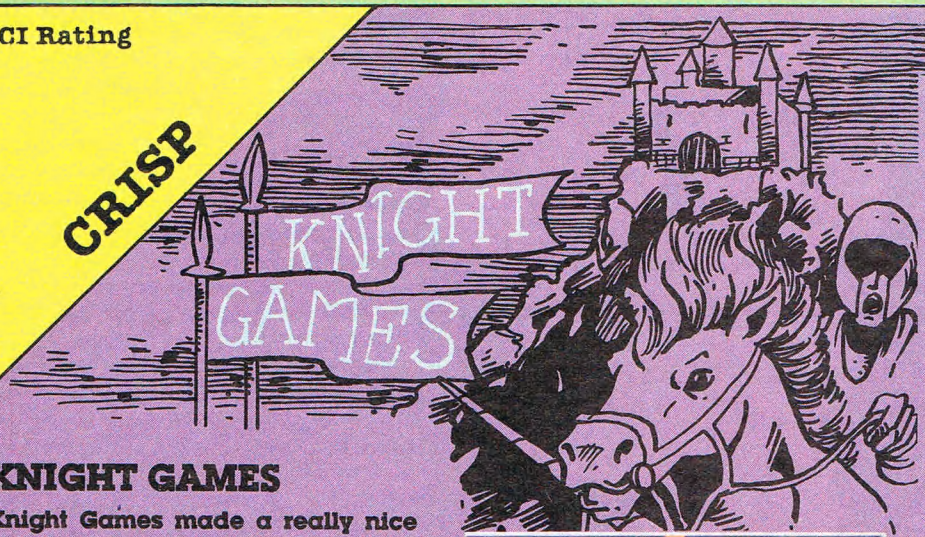
Test three puts you on foot, and the better you battle, the more hardened the battle becomes.

Trap looks great on the package. On the screen however it isn't totally special. I wouldn't place it as one of the very top Crowther productions but nevertheless *the game's still great fun to play.*

Price: £9.95 tape or disk
Graphics: ★★★
Sound: ★★★
Playability: ★★★
CCI Rating: CRISP

CCI Rating

CRISP



KNIGHT GAMES

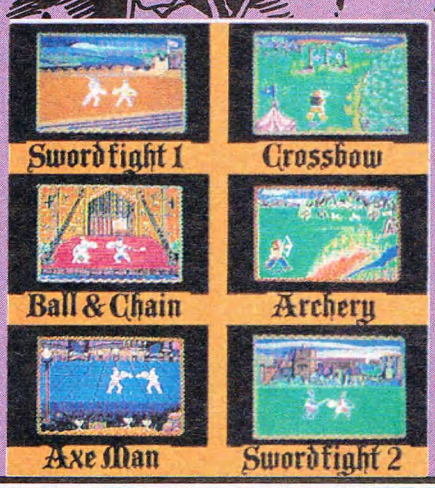
Knight Games made a really nice change from all of those ninja and martial arts games that are being turned out at a rate of knots. Unlike most of these though, this is a good game! If I had to make a criticism, it would be that each event has to be loaded in from tape. None of them is stored ready for use when the program first loads, and I just can't believe they didn't have enough memory! Still, quite a quick tape-turbo has been incorporated, so the wait is pretty short and painless.

The object of each event is to win as many roses and shields off your opponent as possible within the chosen time limit. It is a pity that each game is totally self-contained. Effectively you have eight games on one cassette, because they do not link up, or pass on scores.

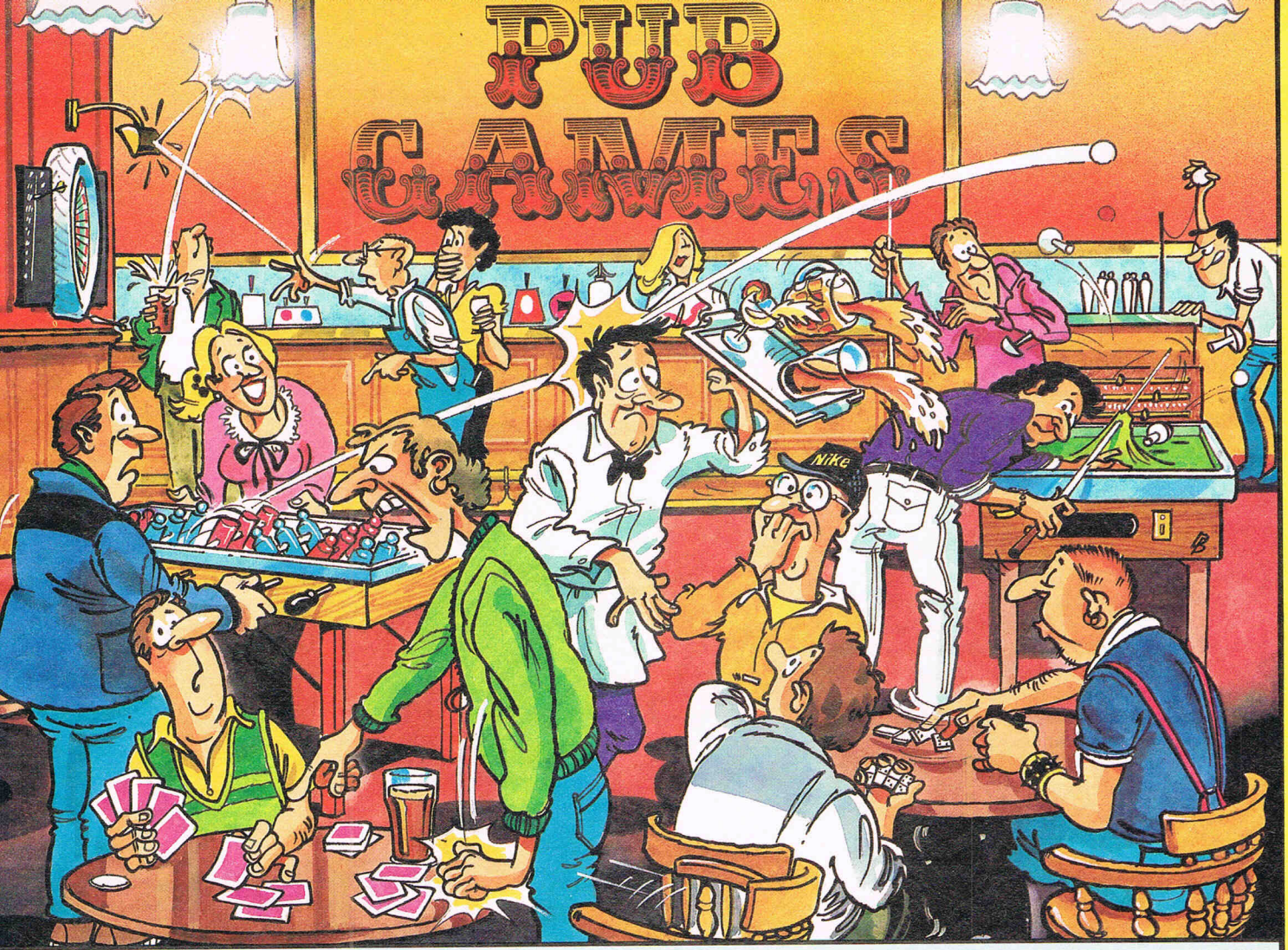
There are eight events, four on side one, and four on side two. First on the agenda is Sword Fight, in which, yes, you do battle with another knight. There is another event called Sword Fight 2, but I don't really see what the difference is.

In Crossbow you have to shoot moving targets, taking into account some rather exaggerated hand wobble. The other five games are Quarterstaff, Ball & Chain, Archery, Pike Staff, and Axe Man.

There's also some pretty good music, and the sound effects are OK. Not a bad game at all, and at least they've come up with an original setting for a combat game! Have at ye, varlet! Damned be he who first calls enough! (Are you all right?–Ed.)



Price: £8.95 cassette £12.95 disk
Graphics: ★★★
Sound: ★★★
Playability: ★★★
CCI Rating: CRISP



AND THEY CALL THEMSELVES ADULTS!!!

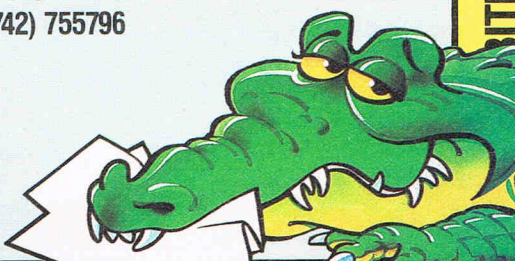
The times they've left you at home because 'you're not grown up' or 'not old enough to come to the pub' and look what they get up to when they get there! Here's your chance to find out what it's really like in those smoke filled haunts of adulthood. The opportunity to see how good you are at these ADULT?? games.
Why let the mums and dads have all the fun. Pub Games can be a laugh for everyone.

BAR BILLIARDS · DOMINOES
DARTS · TABLE FOOTBALL
POKER & PONTOON
BAR SKITTLES

£9.95

Commodore 64/128 ▪ Spectrum 48K ▪ Amstrad
Available soon BBC ▪ MSX

Alligata Software Ltd., 1 Orange Street,
Sheffield S1 4DW.
Tel: (0742) 755796

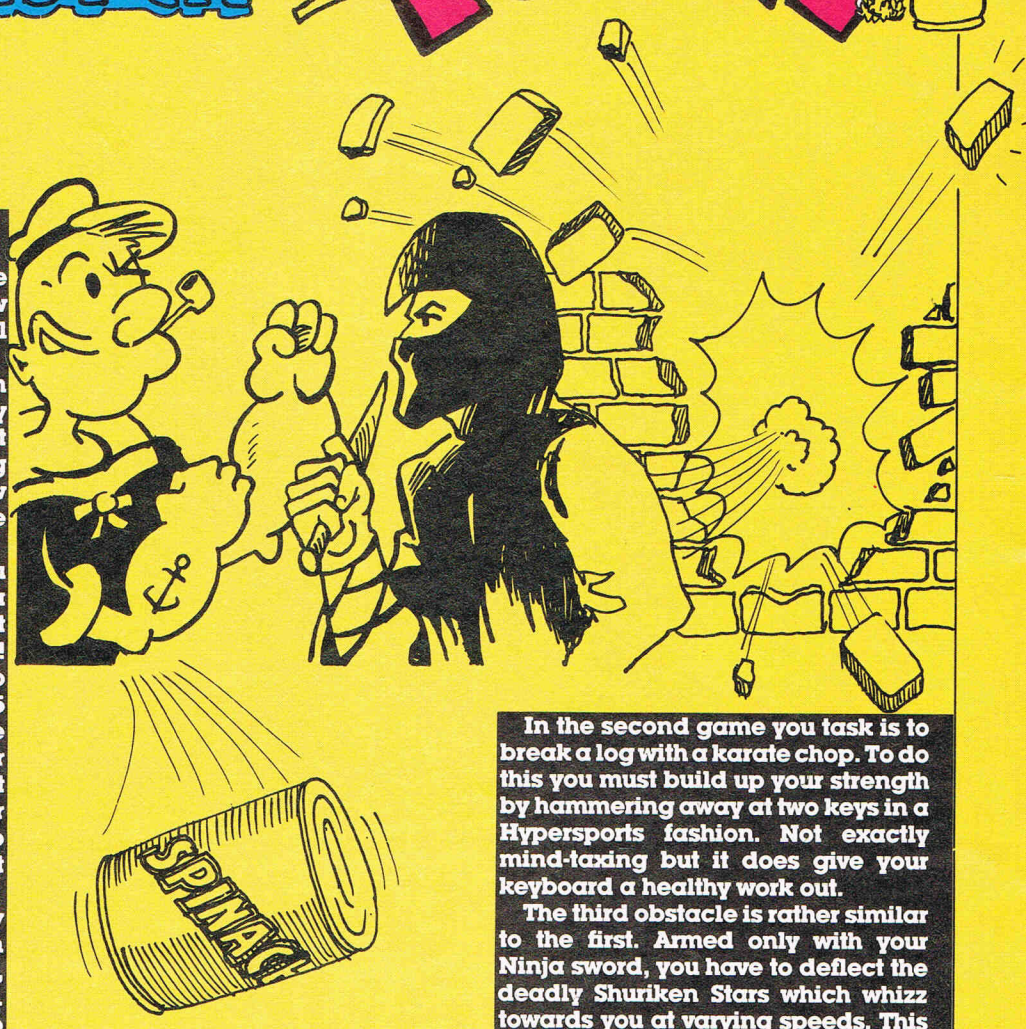


· ALLIGATA BITES BACK · ALLIGATA BITES BACK · ALLIGATA BITES BACK ·

MEGA REVIEW

IFTY DODGY

NINJA MASTER vs POPEYE



POPEYE

This isn't a conversion of the arcade game of the same name, but a new idea incorporating the ever-loyal sailor, Popeye.

The program was originally written for the Speccy and retains a Speccy 'feel' and 'look' to it, and doesn't really suit the 64. It's interesting to note that all the quotes saying how wonderful the game is come from the Spectrum version reviewers.

To hold on to Olive Oyl's love, you have to keep her supplied with a never-ending supply of love. (Do not move a a comment, dear Ed. Please! You know we all love you deeply!) To do this, you'll need to collect 25 hearts that are scattered all over the playfield. Olive has a loveometer which has to be kept topped up. If it starts to fade you'll have to deliver some of the hearts you've collected to her, or that's it for you! (I kid you not that's what it's about.)

There are a few things in your way though. You'll need the key to open the door, the coin for the fruit machine, and at some point, fire a cannon. Take a trip on a passing space ship too . . .

These are passive obstacles. There's also Bluto, birds, witches, dragons, and sharks to contend with. If you've got the spinach you can revive yourself though.

To get around the complex, there's a handy selection of stairs, ropes, and ladders. As well as climbing up and down these, you can move in and out of doorways which helps to avoid those nasty beasties. If you cross Bluto, he'll knock you out cold!

This might have been a really good game about a year ago, but I'm afraid that with the standards that have been set now, it is only barely above mediocre.

Price: £6.95
Graphics: ★★★
Sound: ★★
Playability: ★★★
CCI Rating: Iffy

Ninja Master by Firebird

Firebird are the latest in a long line of software houses to provide a martial arts combat game. 'In the ancient realms and provinces of the land of the Rising Sun lived a breed of warriors – feared by all and who feared no one'. Yes, you've guessed it – its a Ninja Game! Bruce Lee where are you now that we need you?

In NM, you are a fairly new Ninja who sees his chance to impress the elders at the annual games, which have just come around. The games are split into four sections, each of which you must complete to attain the next grade. (Haven't I heard this somewhere before?–Ed.)

Game one has you warding off arrows that come at you from either side. You must defend yourself with your bare hands, accompanied by what I can only think is the digitised sound of a ninjitsu cry (highly realistic stuff . . . though I haven't heard a lot of Ninjas cry recently).

In the second game you task is to break a log with a karate chop. To do this you must build up your strength by hammering away at two keys in a Hypersports fashion. Not exactly mind-taxing but it does give your keyboard a healthy work out.

The third obstacle is rather similar to the first. Armed only with your Ninja sword, you have to deflect the deadly Shuriken Stars which whizz towards you at varying speeds. This is the only one of the four games that I actually felt was challenging, as it relied on quick reactions, and a beady eye. (You've certainly got that! It's the other eye I don't care for!–Ed.)

The final test is to shoot down flying canisters with a blowpipe. I don't know whether the blowpipe is the approved 'canister shooter' in the Land of the Rising Sun, but if it is, my respect for the Ninja is not as great as it was.

Ninja Master is placed by Firebird in the Silver Range, and sells for £1.99. Although neither graphically stunning, nor thrilling in game play, it is cheap, and will provide a few hours entertainment. Ultimately though, it becomes very boring and monotonous. Except maybe to a Ninja.

Price: £1.99
Graphics: ★★★
Sound: ★★
Playability: ★★
Rating: Dodgy

CCI Rating:

CRISP

ACTION PACK II (COMPILATION)

Action Pack II is a compilation tape containing four very good games. At only £4-99 this is a package not to be missed. The four games are; Z, Eagle Empire, Tales of the Cat and Knockout.

Z on first sight is not unlike Uridium or the arcade machine 'Starforce' but once into the game the plot is slightly different. You are the pilot of a spaceship and you start by flying over some space station type terrain. You must destroy fleets of aliens that have been sent your way. Once you've destroyed ten of the fleet you get confronted by an energy unit. If you shoot the energy unit and collect it you will get an energy bomb added to your inventory. You will need these bombs to exit from the screen. Once you have collected a few bombs you can then try to penetrate the force field that is surrounding the transporter unit. Once you've made a large enough hole you can enter and you get transported to another level. There are four levels in all. The graphics for Z are detailed and colourful and the scrolling is the height of smoothness. Z is also very fast so it doesn't get boring. It's a very good version of the shoot 'em up theme.

Fight your way through four exhilerating levels to destroy finally the master alien is your task in the Eagle Empire. I've been looking for a really good copy of the arcade game Phoenix and I think this must be it! The four levels and end bonus screen are virtually the same as the real thing only maybe just a fraction slower. When you've penetrated the four levels you get to have a bash at the bonus screen. This is where the evil master alien sits in his nasty little spaceship and you must attempt to blast him out of it. Eagle Empire is very easy to play although it does get harder the further you progress. Graphically simple but very effective. Sound is mainly spot effects but they are used to good effect. This was my favourite game on Action Pack 2.

Have you ever wondered how a cat uses it's nine lives? Well you'll certainly find out in Tales of the Cat. You must guide your feline friend home through the delapadated back streets. There are fifteen screens progressing in difficulty. Each screen contains a road with some cars travelling far too fast on it, a big black dog and you may even meet the occasional breakdancer! Watch out!

To complete each screen you must collect an object, which is normally situated in the middle of the road. Graphics of both the characters and the backdrops are quite chunky and not very pretty to stare at for too long. I didn't really like Tales of the Cat as there is not much variety and I got bored quite quickly. But that's me. I've got a low (or is it high?) boredom threshold.

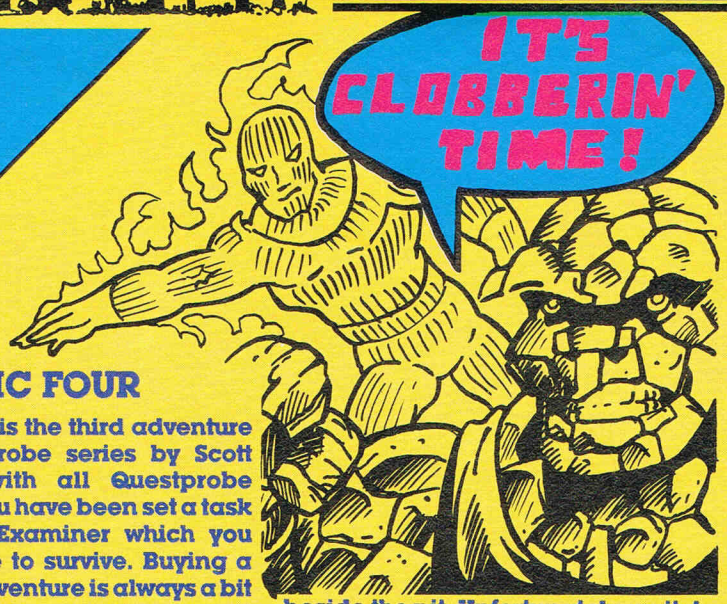
If you're into a dose of brain damage or fancy a headache then you'll certainly receive one with Knockout. This is not the best boxing simulation that I have ever played but the title page is impressive with a rotating 'Knockout' symbol. The game, however, is not quite so good. Your view of the ring is from the side and Alligata have managed to make it work quite well. You can create your own boxer using various steps and punches. The graphics of the boxers are a bit lumpy and primitive but if you wanna become the next Rocky you'd better get in there sparing. So get him, champ!

Price: £4.99

Overall Rating for Action Pack 2
CRISP

MEGA REVIEW

CRISP



FANTASTIC FOUR

Fantastic Four is the third adventure in the Questprobe series by Scott Adams. As with all Questprobe adventures, you have been set a task by the Chief Examiner which you must complete to survive. Buying a Questprobe adventure is always a bit risky, because you don't know what the task before you is until you are told by the Chief Examiner after booting up the game.

In this Questprobe, you have to rescue Alicia masters from the evil Doctor Doom. To do this, you have to master the powers of two super heros; The Thing and The Human Torch. You can switch between the two by typing CHANGE VIEW in which case your control changes to the other character. The Thing starts off stuck in a tar pit, and Torch on the land beside the pit. Unfortunately, switching views can crash the game, so I wouldn't do it too often!

All American ADVENTURES

The graphics are quite nice, and don't constantly load off disk which helps speed the game up a little. It would seem to be written in basic, because the speed really is awful. There is nothing worse when playing an adventure than having to hang around waiting to input your next command whilst the machine sorts itself out.

The instructions include a list of all words the adventure understands, and a list of the characters in the game, their powers, and personal information, which is vital to solving the game. Also included is quite a long section on how to play an adventure, and what it is, something that more publishers could do with including.

A good adventure, with quite a challenge. Despite being slow, it is well thought out, and two characters having to be controlled, makes a refreshing deviation from the standard adventure route.

Price: £9.95 (c) £14.95 (d)
Graphics: ★ ★ ★
Sound: n/a
Playability: ★ ★ ★
CCI Rating: CRISP

NAFF

THE SNOW QUEEN

The Snow Queen is the computer version of Hans Christian Andersen's story of the same name. The story itself may have received world wide acclaim and be remembered forever, but I doubt very much that the game will be.

To give you an idea of the story, the publishers, Mosaic, have included an abridged version with the instructions. This makes good reading, unlike the game itself. Mosaic say that 'this illustrated text adventure captures the essential magic of Andersen's classic fairy tale.' It may indeed follow the story, but doesn't, quite, live up to the above statement.

Basically, the story line goes something along these lines. When the devil's mirror broke, splinters of it entered Kay's heart, and he fell under an evil spell. The evil Snow Queen then spirited him away to her cold domain. Gerda, his friend, tries to rescue him, and eventually succeeds with the help of a raven, a wood pigeon, a wise old woman, and a reindeer.

You start off in your Grandmother's house, and before you leave, Gerda insists on washing, and kissing her grandmother goodbye. When you leave the house, you are suddenly hit with pangs of hunger, and wander into a nearby baker. Unfortunately, you have no money, but after wandering around a bit you discover a purse with a gold, coin in it. I hope the publishers will forgive me for being incredibly stupid, but after spending half an hour trying to get that coin out of the purse, I gave up in disgust.

Graphics wise, the game's nothing special, but then you don't expect Bob Stevenson graphics in an adventure game. By trying to capture the 'essential magic' they have ruined what could have been a good adventure.

Price: £9.50
Graphics: ★ ★
Sound: n/a
Playability: ★ ★
CCI Rating: NAFF

PROJECT

Undo	Disregard previous user instruction
Fast Menu	Toggle the fats menu window
New Script	Erases the current script
Storage	Displays the storage requestor
Storyboard	Transfers program control to the Storyboard
Color	Displays the colour requestor
Time	Displays the time requestor
Status	Displays the residual memory
Exit	Leave the program

CREATE

Line	Creates an object that is single line
Polygon	
filled	Creates a solid free-form shape
outline	Creates an outline free-form shape
Circle	
filled	Creates a solid circular object of 16 points
outline	Creates an outline of a circle
Star	
filled	Creates a solid 5 sided star object
outline	Creates an outline of a circle
Block	Creates a 4 sided raster object
Clone	Duplicates a selected object
Destroy	Remove an object

MOVE

Move	
sideways	Drags the current selection around the screen
in	Moves the current selection inwards through successive planes. Perspective available from fast menu selection with this option
out	Identical to *in* facility
Rotate	
in plane	Move the current selection around an indicated centre without changing the current plane
around X	Moves the current selection around the x-plane
around Y	Moves the current selection around the y-plane
Size	Enlarges or shrinks the current selection
Path	Plots a course for movement of current object
Change color	Changes the current selection colour to that of the colour at the beginning of the tween
Change type	Changes the object type to outline, filled or line
Morph loop	Change the shape or position of current object by moving points that make up the object
hook	Changes the shape or position of current object by moving, adding or deleting points on the object

SELECT

Point	Makes the current selection active on an individual point only
Points	Makes current selection active on multiple points with points not necessarily on the same object
Segment	Makes the current selection active on a portion of a single object
Polygon	Makes current selection of any one object
Polygons	Makes current selection of multiple object
All	Makes current selection of all objects in current animation

TIME

Tween	Advance current position to next tween or creates a new tween if non exists
Replay Tween	Plays back the animation in the current tween
Replay All	Plays back complete current script
Play Loop	Replay current script continuously
Ghost Mode	Displays all objects in outline graphics
See Tween	
at end	Makes objects appear in the position they would be at the end of each tween
at begin	Similar to above except that objects appear at the start of each tween sequence

COLOR

This displays the current colour palette. Palettes may be loaded and saved like files

STORYBOARD

Project	
go into	Enter edit mode in the selected window
speed	Displays the time requestor
about Ani	Details of the software
status	Displays the remaining memory
exit	Leave ANIMATOR
Edit	
splice	Copies the current tween and any future tweens to another window
cut	Cuts the current tween and any future tweens to another window
delete	Remove the script from the indicated window
activates	Same as *Play Loop* in the indicated window

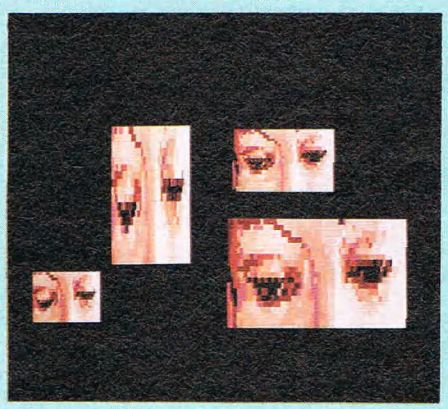
ANIMATOR SUPPLIER:
Aegis Development, 2210 Wilshire Blvd., Suite 277, Santa Monica, CA 90403, USA.
ANIMATOR - UK Distributor:
Precision Software Ltd, 6 Park Terrace, Worcester Park, Surrey KT4 7JZ. Tel: 01-330 7166.

an excellent and intelligent use of the system software facilities within the AMIGA. The operating environment of ANIMATOR follows much the same pattern as IMAGES and uses the menu and window structure of the Workbench. It is worth noting that on a 512k machine you can save on precious memory by running ANIMATOR from the CLI (command line interface) or AmigaDOS level. The point I am making here is that AmigaDOS does use some parts of INTUITION, the underlying structure of the Workbench just in case you were not aware of this fact.

The first group on the menu is concerned with the saving and loading of files and is titled *Project*. Happily the magic command *undo* was also present — this eliminates the effects of the last user instruction within ANIMATOR. Data files are termed scripts, a sensible name since we are dealing with techniques from an established industry. There are other types of file which are distinguished between by the usual AmigaDOS technique of suffixes. Thus backdrops become *.pic* files colour palette tables are *.col* and so on. Scripts are read into the *storyboard* which is rather like a memo pad containing the details of the animatory sequence. ANIMATOR allows for 9 storyboards and the user can cut and paste between each. This is obviously a flexible and powerful technique since users can build up libraries of routines rather like professional computer programmers.

The *Project* section also contains the *time* and *color* controls. The latter operates in much the same way as IMAGES albeit on a rather more restricted manner. For instance the number of options are fewer, although do not let this distract you from the main purpose of this application — namely animation. Highly detailed images are created using IMAGES and then components of these images are then taken by ANIMATOR for work-up into the animation sequence. The *color* facility within ANIMATOR is there essentially to put a final polish on the animatory object. The *time* option sets the parameters for the *local* speed and *global* speed.

In animation different components of the object move at different speeds. For example, consider a scene where a man walks across the screen — his legs will be moving at a different rate of speed compared to his swinging arms. There are three time variables here — two *local* parameters viz. the object's arms and legs and the *global* parameter which controls the speed at which the object traverses the display. Take another example, this time from presentation graphics — a box appears in the centre of the display and proceeds to enlarge itself. During this enlargement process which could represent a company or product's growth, the box spawns another object — for example a circle representing a satellite product or company and it too proceeds to enlarge or grow, this time at a different rate. Only two time parameters here — the major object being the box and the minor object consisting of the circle, the former controlling the *global* variable, the latter running under the *local* time variable. Both examples are crude and possibly trivial but I hope you have grasped the point over the difference between *global* and *local* speeds. The final two selections in the Project menu are *status* and *exit*. The former is quite important since it is advisable to keep an eye on the memory remaining if you are running ANIMATOR on a 512k machine.



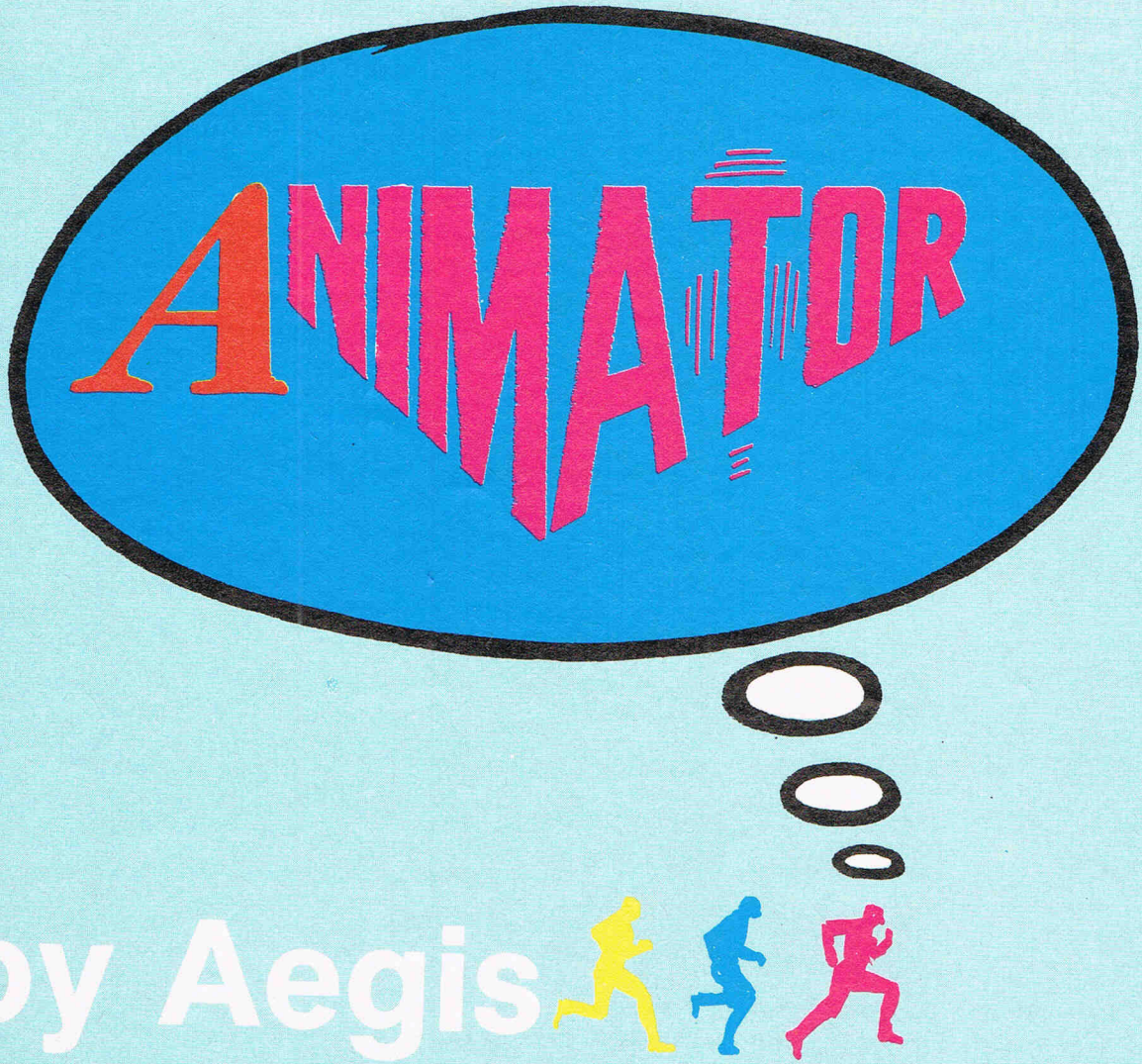
The next part of the menu bar is the *Create* section. There are a number of preset shapes present in this selection such as stars and circles — the prime choice here is usually the polygon option. This allows the user to draw an object free-hand with an option to produce either an outline or fill, that is filled with the same colour as selected from the colour palette. Further down the *Create* section the useful *clone* option exists to increase productivity whilst the *destroy* function provides an escape for any errors made during creation. There are no limits on the number of clones that may be produced.

We now shift attention to the real crux of ANIMATOR, the *Move* selection. This group controls the different methods of moving objects around on the screen such as dragging, moving, rotating or resizing. There are three types of object rotation within ANIMATOR — around the X-axis, Y-axis and in the plane. Note that the centre of rotation does not have to exist within the object itself, it may be defined anywhere on the screen — leading to some interesting and unusual effects. Object resizing has already been discussed and there is sufficient intelligence within ANIMATOR to be able to distinguish between overlapping objects after a resize has taken place. *Morph* is probably the cleverest part of the whole package since this allows redefinition of an object's shape. For example, consider a circle — calling the *morph* function will create a series of points around the circle. By engaging the points using the mouse controls the circle is pulled out of shape. I suppose the nearest I can describe is *visual plasta cine* or *computerised working in wax*!

The two remaining functions on the menu bar are *Time* and *Color*. Note that *time* in this context is different from the function with the same name in the *Projects* section. *Time* controls such matters as moving to a specific tween, looking at the beginning or end of a tween, replaying some or all of, or looping the tweens in an animation sequence or *script*. The aptly named *ghost mode* is used to describe the entire animation in outline form. For example, backdrop windows would be seen sliding into the display, the mask frames could be viewed to endure that their placement is correct on a backdrop frame. You will find that *ghost mode* is used quite extensively during the creation cycle in order to see just what is going on. Indeed using this mode is an excellent way to uncover techniques used by other (more skilled!) users.

ANIMATOR is the type of software that cries out for the user to start doing something. Admittedly, this is rather a difficult request to deny since everytime it is used I find I have learned yet another new technique. The possibilities that ANIMATOR opens up are huge — it is the first genuine animation package offered on the PC market. The cost/benefit ratio in terms of a *total* animation system cost are ridiculously low. It is extremely fast and open to importing other files from other software. With ANIMATOR even in the hands of a relative novice, presentation graphics can take on a new dimension.

This package continues to teach and amaze me after several months of use and remains one of my favourite pieces of AMIGA software. The few rough edges are compensated for by the facilities on offer. Considering that IMAGES is included in price, the total package is an absolute bargain. For the benefit of readers who are seriously interested in the range of facilities offered, I have listed the functions on the next page.



by Aegis

THE AMIGA is the first personal computer to feature true animation — that is direct control over the movement and shape of the components of a user-defined object in addition to the object itself. AEGIS ANIMATOR allows the user to define objects in 32 colours from the master palette of 4,096 and then change the object's size, shape or colour. The object can be dragged, rotated or a path plotted for it anywhere on the screen. The user may create up to nine script or event-sequences and cut or splice these scripts into a storyboard. Backdrops to the animation events can be loaded in — the backdrops having been previously created using AEGIS IMAGES, GRAPHICRAFT or DELUXE PAINT or another paint/draw package that supports IFF file structures (see AEGIS IMAGES review in this issue for more details of IFF FILES.Ed.).

ANIMATOR operates by using the concept of 'tweening' to provide metamorphic animation. Each 'tween' is a segment of time and by altering the shape or position of the object at the start and finish of each segment an animation sequence is built up. The time element of each tween can be varied by the user and may be a unique value. This is different from the other more well known type of animation where the artist produces a frame for each individual sequence. ANIMATOR cuts down considerably on this amount of work since basically all the user has to do is define the beginning and end points in terms of the objects shape, position or colour.

The product is packaged in much the same form as AEGIS IMAGES — an unprotected disk and 100 page book serving as the manual. In fact it is probably wiser to purchase ANIMATOR package as opposed to IMAGES since the latter is supplied together with ANIMATOR. At this point I must stress that animation is extremely memory consuming. So much so that even on 512k of RAM I found ANIMATOR to be pushing for more. It would be a wise move to give consideration to expanding the memory of the AMIGA if you intended purchasing ANIMATOR for professional purposes. The manufacturer has made allowances for running out of memory by incorporating a safety net employing the Alerts system within INTUITION. This operates by warning the user that memory is running out and gives the option of switching out certain facilities of ANIMATOR. If this is still not enough then ANIMATOR initiates a cycle of saving script files back to the disk before anything dramatic happens,

- ★ Aegis Images – Professional Paint System
- ★ Aegis Animator – Artist's Animation System
- ★ Aegis Artwork – Collection of Clip-Out Images
- ★ Aegis Draw – Computer Aided Design
- ★ Aegis Impact – Executive Graphics
- ★ Logistix – Spreadsheet, Database and Time Management
- ★ MiAmiga File – Filing System
- ★ Gizmoz – Office Desk Utilities
- ★ Digital Link – Communications, VT100 Emulation
- ★ Lattice C Complier
- ★ Cambridge Lisp
- ★ AC Fortran 77
- ★ MCC Pascal
- ★ K-Seka Assembler
- ★ Amiga Toolkit
- ★ Canon 1080A Colour Inkjet Printer
- ★ Microforge 20/40MB Hard Drives
- ★ Comspec 2MB RAM Expansion
- ★ Stereo Sound Digitizer
- ★ ...and many more

...all these AMIGA products come from only one place...

FOR CATALOGUE 'PHONE OR WRITE!

Precision Software is an established leader in the serious Commodore Market for the whole range from C64 up to the Amiga.

Precision is Superscript and Superbase lead the way to new standards and today continue to be regarded as unrivalled quality business packages.

Precision software has now progressed to become the outstanding supplier of software and peripherals for the AMIGA. It is also a major sales point for the purchase of AMIGA and C128D computers.

For software, hardware and support for Commodore and the AMIGA come to – Precision Software.

...Precision Software

Precision Software

Precision Software Limited
6 Park Terrace, Worcester Park
Surrey KT4 7JZ
Telex: 8955021 PRECIS G

01-330 7166

...the Amiga place

Precision Software

No follower of UK software houses can have overlooked the progress of one of our top rated suppliers to the Commodore market, Precision Software.

Founded in 1980 by John Tranmer, Precision actually began life as a software consultancy specialising in Data General minicomputer packages. Only in 1982 did the advent of the original Superscript at that year's PET show give Precision a window into the consumer market. Later the same year the company struck a deal with Commodore that made Easy Script the standard word processor for the Commodore 64, all over the world. Assured of success and recognition, Precision embarked on their most ambitious consumer product: Superbase 64.

Here was the program that would finally establish Precision's reputation as a leading Commodore publisher. Few people had realised that the Commodore 64 would sell in millions, extending significant computing power into large new market sectors. None saw as clearly as Simon Tranmer, Precision's gifted chief designer, that among all the new users would be a large group desperate for a program to make the 64 a serious proposition as a working computer.

Superbase was born in August 1983 and immediately acclaimed as by far the best database manager for the 64. Little else has come close in terms of power and flexibility, especially in the area of programming. Superbase 64 with versions for the 8096, 700 series and most recently the Commodore 128 is still top choice as the standard for heavy duty business use on those machines.

Most notable is Precision's success in shoehorning both Superbase and Superscript, their much praised word processor, into the 128-D's memory at the same time. The co-resident combination of programmable database and word processor gives the 128-D formidable capabilities as a business system, as users all over the world, some 600,000 of them, have affirmed by voting with their wallets. Translated into eight languages, the 'Superbase-Superscript' system is a remarkable example of innovative, world-class British software technology.

Now if you go down to Precision's sales showroom in Surrey, you will see the company has moved to another stage in its progress. You will see the new Superbase, running, of course, on the Commodore Amiga.

It is as Dr Bruce Hunt, Precision's Marketing Manager is at pains to point out, a completely new program. 'The only thing that is the same is the name. We've redesigned from the ground up, writing in 'C', to give ourselves portability for the future. At the heart of the program is a 'no-limits philosophy' - we just want to take away the burden of maximum record sizes, limitations on open files and indexes, tedious concerns that should be consigned to the past.' It's a friendly and handsome looking beast too, with a panoply of pull-down menus and multiple windows, and a clever use of symbolic controls borrowed from familiar tape-recorder conventions.

Superbase Amiga, in all its relational glory, will be out at the end of the summer. John Tranmer, fresh from visiting Precision's USA distributors, expects substantial orders from existing Superbase customers in North America, as well as Amiga users who are crying out for a major league database. Sales Director Nigel Lovett-Turner is equally positive about Europe and the rest of the world, though he won't be drawn on deals already in the bag.

AMIGA Development

Back in the UK, Precision is moving into software distribution. In an astute move, they have acquired the rights to the family of Amiga graphics products from Aegis Development. The leading produce is Animator, a unique animation design system. Images, a professional level paint program, and Draw, a comprehensive CAD system, complete the current range. Impact, a spectacular graphing product, is due for release in a few weeks. The Logistix integrated spreadsheet, database, graphing and time management system is also available in Precision's Amiga software line-up. Together with 20 and 40 Mb hard disk drives, 2 Mb RAM expansion, and Canon colour inkjet printers, Precision's range of Amiga software gives the Amiga resounding credibility as a creative and productive business system.

'Amiga and 128 software and hardware is not the sort of thing you buy without a demonstration. We're encouraging customers to ring in for details and then follow up with a visit to the showroom. Most items are available now from stock, so there won't be any wasted journeys.'

In over four years as a software publisher, Precision has seen its share of ups and downs. The volatility of the market place has seen to that. 'You can't second-guess every twist and turn in fashion at this end of the industry,' observes John Tranmer, 'product life cycles can be ridiculously short. But with the new Superbase we have a powerful database manger we can move onto new machines as they appear. That gives us a chance to build on what we've done.' There are few enough British programs capable of competing in global markets, and Superbase has got to be judged on its record — which makes a world leader. Precision is a company to watch.

AMIGA™

IN THE MIDLANDS!

- ✓ Suppliers of Amigas to industry, education, business and personal users.
- ✓ One year warranty including on site maintenance.
- ✓ Large range of software already available, including technical reference manuals.
- ✓ Technical support from people who have been using Amigas over 8 months.
- ✓ Over 20 megabytes of Public Domain programs already available, free to all Amiga owners.
- ✓ Just 100 yards from Leicester Railway station on the A6
- ✓ Over 1000 software titles for all Commodore computers.
- ✓ Ink jet, dot matrix and daisywheel printers for all models.
- ✓ Books, paper and disks for all models — in fact everything you need for any Commodore.
- ✓ The only dealer in the U.K. to support all Commodore products
- ✓ Run by Commodore enthusiasts — at your service.

cavendish commodore centre
66, London Road, Leicester
LE2 0QD. Tel: 0533 550993

VISA

PROGRAMMING LANGUAGES FOR THE *AMIGA*

FROM METACOMCO - *the authors of AmigaDOS.*

NOW AVAILABLE ► MCC Pascal – Compiler
► Cambridge Lisp – Interpreter/Compiler
► Lattice C – Compiler
NEW ► Metacomco Amiga Toolkit
NEW ► Other Lattice Amiga products:–
Lattice Screen Editor · Lattice Text Utilities
Lattice MacLibrary · Unicalc · Lattice Make
dBC III Library

PLEASE CONTACT US DIRECT FOR MORE INFORMATION OR DETAILS OF YOUR NEAREST DEALER OR DISTRIBUTOR

METACOMCO
26 Portland Square, Bristol BS2 8RZ, UK. Tel: (0272) 428781 Telex: 444874 METACO G
5353E Scotts Valley Drive, Scotts Valley, California 95066, USA.
Telephone: 1-800-252-6382

LEADING THE FIELD IN 68000 SYSTEMS SOFTWARE

© METACOMCO 1986

Trademarks: AmigaDOS: CBM Inc., Lattice C: Lattice Inc.

Intelligent Autoloaders

A range of Intelligent Diskette Autoloaders — designed for high speed, unattended diskette duplication — is now available from FORMASTER, UK leader in software duplication technology.

The Autoloaders will format, copy and verify diskettes then automatically place them in appropriate 'accept' or 'reject' output bins. Electronic sensors alert the operator when a bin is empty or full. Diskettes can then be removed without stopping operation.

By precisely placing each bit close to its ideal location, 'High Definition recording technology' is claimed actually to improve the quality of the disk over the original. It dramatically reduces peak-shift or bit crowding by over 35%, lowering the number of error reads.

Changing diskettes at twice the speed of previous loaders, the new units can reduce copy time by up to 8%.

The two machines in the range allows for 3½ inch and 5¼ inch disk drive types, including the high density 96 TPI (AT) type. Hardware and software interfaces are available for host computers or for the FORMASTER Series One Controller.

Price: *£5900 (+ VAT).*

Contact: *Formaster, Tel: 0753 820981.*

Digital Range

Digital Solutions have launched some interesting AMIGA packages designed to run alone or integrate. The three packages, LPD Write, Planner and Files, have a unique 'link' transfer proceedure, use 'windows' and allow 'zooming'. The LPD range is being marketed as powerful software that is simple to use and increases productivity.

(Digital Solutions' LPD range will be reviewed in the next issue of AMIGA USER.)

Free Disks

Compumart, the Loughborough based blank disk mail order company are celebrating their birthday with some amazing offers on blank disks.

With 5.25" disks they are giving away 2 free disks with every 10 purchased, they have also reduced the price of 3.5" disks by over 20%.

Compumart told us: "With our group buying power we have managed to force the price of disks down. Our company policy is to pass any price reductions straight onto the end user, so we're not only giving 2 free floppy disks away with every 10 purchased, but we've slashed the price of 3.5" Microdisks too.

Compumart have just moved into a new warehouse, their new address is Unit 8, Falcon Street, Loughborough, Leics. LE11 1EH. Existing 'phone numbers, (0509) 262259/233893 still apply.

SEND US YOUR BUSINESS CARD AND YOU WILL RECEIVE A FREE SUBSCRIPTION TO COMMODORE BUSINESS AND AMIGA USER

Managing Editor ..... Antony Jacobson
Contributing Editor ..... Bill Donald
Writers ..... Ian Bennett
..... Julian Rosen
Advertising Manager ..... Max Jacobson
Production Manager ..... Sharon Gilkes
Consultant Art Editor .. Graham Baldock
Asst.Art Editor Beverly Skinner

© Croftward Limited 1986

COMMODORE BUSINESS and AMIGA USER is published by Croftward Ltd, 40 Bowling Green Lane, London EC1R 0NE. Tel: 01-278 0333 ext. 274.

AMIGA DATABASE

Taurus Impex are releasing Acquisition an interestingly original Database for the Amiga.

Acquisition is a database management system utilising the power and innovation that the Amiga has to offer. It incorporates a mapped filing system organised around paths, which allow both relational and hierarchical filing structures, or a combination of features of both. Acquisition provides mutli-tasked access to the filing system, handling up to 16 files in one application. Full use of windows, icons and mouse-driven control are provided. System design is two-tiered between file structure and applications and report systems for manipulation of data. Both tiers can be designed either in the Acquisition editors which can be operated solely by use of the mouse and displayed menus if required, or by writing direct to Acom, the Acquisition database language, which contains over 250 different functions and can be translated into C, Pascal or Basic. Acquisition provides a fully-integrated environment on the Amiga which can communicate with other packages on the system and read and write information to and from them. A variety of data and field formats are supported and Acquisition can store images as data as well as text and numerics. The effective limits of a database's size and complexity are set by the machine and not by Acquistion, the flexible and open-ended environment is supported by a clear command structure, enabling the non-programmer to develop a complex system in a matter of hours. The database can be amended and enlarged at any time without loss of data. A full review of Acquisition will appear in the next issue of AMIGA USER

Contact: *Taurus-Impex Ltd., 3, Bridge Street, Guildford, Surrey, GU1 4RY. England. Tel: (0483) 579399*

FIRE YOUR EDITOR.

And put Microsmiths' TxEd to work for you.

The Text Editor that should have come with your Amiga is now available.

- Easy to learn, mouse & menus
- FASTEST display updates available
- Multiple windows, cut & paste
- Small; efficient in multitasking
- V1.3 has new WP features

To order send $59.95 plus $2.50 P&H,. VISA/MC, Check, Money order, C.O.D. Mass. Residents add 5%. Amiga is a trademark of Commodore-Amiga, Inc. Designed by C. Heath.

ASK YOUR DEALER.

MICROSMITHS, INC.
PO Box 561, Cambridge, MA 02140
(617) 576-2878

Easyl Does It

Anakin Research Inc., of Toronto, Canada, have released EASYL, an Amiga tool for entering traced or original designs directly to the Amiga. EASYL works with popular packages such as Aegis Images or Electronic Arts' Deluxe Paint, or as a product on its own. EASYL is a pressure-sensitive digitizer which easily accommodates ordinary sheets of paper on an 8.5 inch by 13 inch surface with a resolution of 1024 by 1024 pixels.

The EASYL software allows easy access to all Amiga resolution levels from 320 by 200 to 640 by 400. It can be used by lefthanders or righthanders. Images created with EASYL software are in IFF format for easy interchange with other systems. Source is included for the software, facilitating special applications such as image processing.

Contact:

Anakin Research Inc.,
100 Westmore Drive,
Unit 11C, Rexdale,
Ontario, Canada M9V 5C3.

AMIGA Accounts

Three new accounting products are being launched for the Commodore Amiga.They are the new Total Office from Total Office Ltd, Positive Financial Accounting System from Positive Software Ltd and Impacct Integrated Accounting from Eidersoft.

Bringing accounting facilities to all types of business and utilising the multi-tasking capabilities of the Commodore Amiga, they are all easy to use and suitable for a wide range of applications from sales, purchase and general ledger to stock control and sales and purchase order entry.

Developed for the Commodore Amiga, the Total Office fully integrated accounts system comprises spreadsheet, nominal ledger accounting, cash book accounting, purchase ledger, accounts receivable and billing, and looks ideal for both low and high end accounting. Costing about £150, optional extras include a stock control system.

The highly popular Positive Financial Accounting System, previously available on the Apricot Xen and IBM PCs and compatibles, has now been specially configured for the Commodore Amiga and is designed for high end accounting applications. Offering standalone sales ledger, purchase ledger, payroll, stock control and general ledger facilities, this modular system also comprises invoicing, sales and purchase order entry, sales analysis and parts exposure and costs £285.

Impacct Integrated Accounting system contains sales, purchase and general ledgers, and stock control together with both sales and purchasing order processing. Written in Aztec C, this user friendly modular program also handles multi-languages and multi-currencies. Comprising five modules, each module costs £99.

Speak Easy

● **USA and Japan to collaborate on telephone-based translation system.** Japan and US are currently discussing a joint R&D effort to build an automated interpreting telephone system based on artificial intelligence technology.

MCS 256k Buffer

Leading British printer buffer manufacturer, Micro Control Systems (MCS), has broken new ground in terms of price/performance with the launch of a 256K internal buffer for Epson printers. Now available in both parallel and serial formats, the new model not only has double the memory capacity of Epson's own boards, but costs just £189, some 30% below the old list price for MCS's 128K buffer. In turn, the 128K board has dropped to an even more affordable £149.

Contact: Micro Control Systems, Eletron House, Bridge Street, Sandiacre, Nottingham NG10 5BA. Telephone: (0602) 391204.

Good Citizen
Citizen Printer Europe's President Morio Kizawa presents the Mayor of Hillingdon with 20 Citizen printers for use in local schools.

Absoft's AC/Fortran

Absoft has brought out AC/Fortran for the Amiga. It is an ANSI FORTRAN 77 compiler with debugger designed to run main frame programs on the Amiga. To facilitate development of large programs on a standard 256K machine, AC/FORTRAN has been designed as a disk based compiler requiring only 46K of RAM. Additional development tools include support of overlays, and virtual arrays as wel as dynamic linking of programs at runtime. The compiler comes complete with a full screen source level symbolic debugger, linker, library manager, IEEE single and double precision floating point software, complex number support, VAX extensions, and has no limitation on code or data size. Also included is the ability to interface with C, and option to generate assembler source, full interface into the Amiga ROM routines and a 300 page user reference manual. Available now, $295.

For Turbo Amiga users, Absoft has announced a version of their professional series FORTRAN 77 compiler that includes all of the AC/FORTRAN features as well as full support for CSA's MC68O20/MC68881 Turbo board. $495.

Contact: Absoft, 4268 N. Woodward, Royal Oak, MI 48072. (313) 549-7111. Telex: 235608.

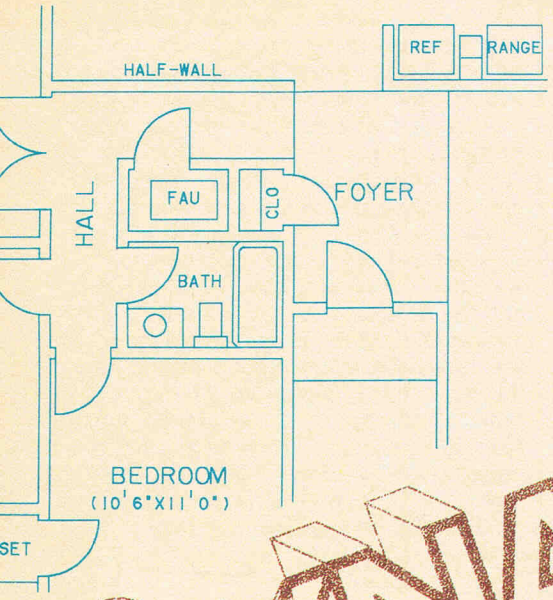
AMIGA Distributor

Bradford-based distributors Eltec Computers have signed an agreement with Commodore to be one of only two educational suppliers nationwide for the new Amiga machine and other Commodore consumer products.

Eltec will fulfil a dual role for Commodore, acting as distributors to both the commercial arena and the field of education - an area where Eltec have specialised for some years.

Tom Hart, National Sales Manager for Commodore was positive about the choice of the rapidly-expanding Eltec Computers as Commodore's northern distributors. "Eltec enjoy a very good reputation in the trade for professional conduct and distribution expertise," he commented. "Coupled with their existing dealer network and strength in the education arena, I am confident that our two companies will enjoy a mutually beneficial relationship."

Eltec will be distributing all Commodore's current range, including the music keyboard recently launched onto the UK market for use with the 64 and 128 personal computers.



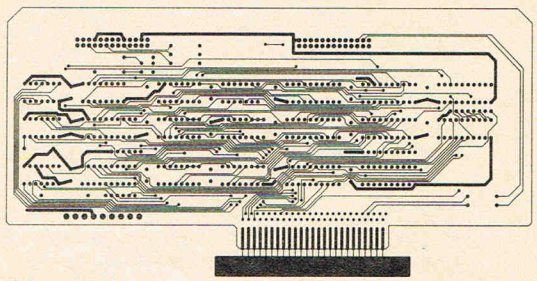
Finally, a proven CAD system for the Amiga

FROM MICRO-ILLUSIONS

DYNAMIC-CAD

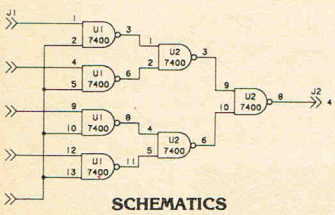
What AutoCAD* can do for the IBM*, Dynamic CAD can do with the Amiga... and a great deal more for less than a fourth of the price!

PRINTED CIRCUIT ARTWORK

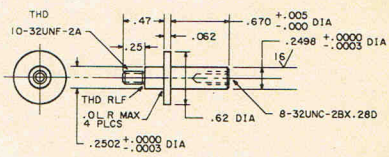


Emerging from years of successful problem solving applications in piping, and electronics for the aerospace industry, DYNAMIC CAD has brought a highly advanced and powerful CAD system together with today's most dynamic and versatile micro-computer, the Amiga. DYNAMIC CAD takes full advantage of Amiga's extensive capabilities with color, multiple modes of resolution, mouse functions, and easily accessible pull-down menus.

This is not some promised "vapor-ware." DYNAMIC CAD exists now and comes to the Amiga with a proven track record. The time and money-saving applications of DYNAMIC CAD for engineers and architects are truly astounding. Here is an advanced, 2-D drafting system with isometric capabilities that can be combined with many models of printers, plotters, and digitizers. In getting started you'll have the support of an extensive manual written in understandable English along with working examples as tutorial lessons.



SCHEMATICS



MECHANICAL DRAFTING

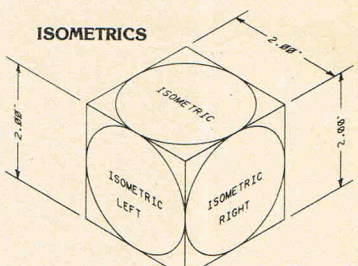
SIGNAL NAME	COMP NAME	PIN NUMB	SOURCE	TYPE COMP
S0001	J1	2	I	CON
S0001	U1	1		7400
S0002	J1	3	I	CON
S0002	U1	4		7400
S0003	J1	4	I	CON
S0003	U1	9		7400
S0004	J1	5	I	CON
S0004	U1	12		7400
S0005	J1	9	I	CON
S0005	U1	2		7400
S0005	U1	5		7400
S0005	U1	10		7400
S0005	U1	13		7400
S0006	U1	3	I	7400
S0006	U2	1		7400
S0007	U1	6	I	7400
S0007	U2	2		7400
S0008	U1	8	I	7400
S0008	U2	4		7400
S0009	U1	11	I	7400
S0009	U2	5		7400
S0010	U2	3	I	7400
S0010	U2	9		7400
S0011	U2	6	I	7400
S0011	U2	10		7400
S0012	U2	8	I	7500
S0012	J2	4		CON

NET LIST FROM SCHEMATIC

WHAT DYNAMIC-CAD CAN DO FOR YOU

- D·C gives you all the expected CAD functions of zooming, rotating, panning, group functions and menu driven features.
- D·C brings you professional CAD capability tested and proven in the production of tens of thousands of drawings.
- D·C will liberate you from the need to draw free hand.
- D·C has net listing capability from your schematic.
- Schematic comparison to your printed circuit artwork for continuity check.
- D·C can produce isometric views.
- Mil-Spec quality Leroy® fonts.
- Automatic line dimensioning.
- D·C includes a series of information libraries: Symbols, Electronic Parts/Chips, Architectural Components, Landscaping, etc.
- Data base to store and retrieve information on parts specifications, vendors, and pricing.
- Data base system utilizes ASCII format files which are convertable to other standards.
- Capable of utilizing up to 4,096 colors.
- D·C can generate over 8,000 layers.
- D·C supports most standard dot matrix printers, ink jet, lazer jet, pen plotters, and the Gerber* Photoplotter.

ISOMETRICS



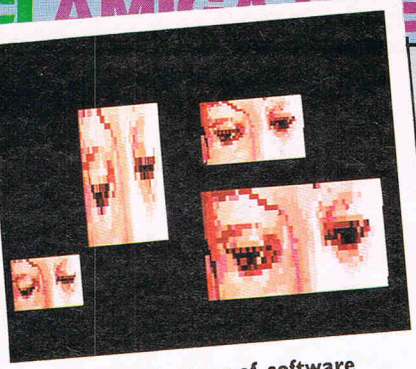
SYSTEM REQUIREMENTS
512 K RAM
2 Disk Drives (or)
1 Drive and Hard Disk
Printer or Plotter

Inquiries invited. (818) 360-3715

*Gerber — trade mark of Gerber Scientific Instruments
*Leroy — trade mark of Keuffel & Esser
*IBM — trade mark of International Business Machines
*AutoCAD — trade mark of Autodesk, Inc.
*Amiga — trade mark of Commodore Business Machines

micro illusions

P.O. BOX 3475, GRANADA HILLS, CA 91344



Animator – "The type of software that cries out for the user to start doing something"

9. The AMIGA *offers IBM-PC compatibility* through two routes — hardware and software emulation. The primary function of the AMIGA is to establish it's own dedicated software base which in realistic terms can take some time. It was designed as an AMIGA first, 'PC clone mentality' second. Users who have to maintain a library of PC-DOS or MS-DOS software or alternatively need to keep substantial volumes of data under this format can utilise the hardware or software emulation of a PC-DOS or MS-DOS environment. The degree of emulation is tied to limitations of both the IBM copyright of the ROM BIOS and the hardware itself, when all said and done the AMIGA is a 68000 machine. However, as a further demonstration of the inherent strength that lies in the AMIGA, the machine is capable of reading GCR disks in addition to the standard MFM format of AmigaDOS. Astute readers will realise the significance of this in terms of both Commodore and Apple computers. For the benefit of those who do not appreciate what this means — *the AMIGA is capable of reading and writing Apple and Commodore disk formats.* When both this and PC-DOS capability are realised, perhaps readers can appreciate the formidable power the AMIGA offers to purchasers. *There is simply no other machine available that can provide all of these functions* — unless of course you wish to start massive rebuilding of the hardware.

It is now more than eight months since I took delivery of my AMIGA. The system has been in use for many thousands of hours.

It is a North American software developers specification — meaning that it is designed for a 60Hz (plus or minus 10%) supply frequency at 115V — I take care of the voltage on a transformer, the frequency I can do nothing about thus the system (including the monitor) runs way below the recommended frequency.

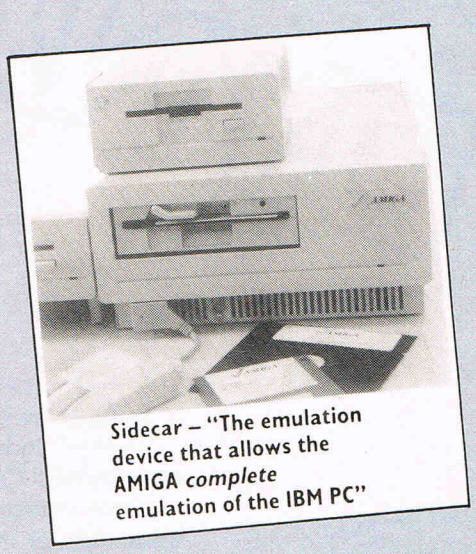
It has been transported from my home in Kent for demonstration purposes at two major exhibitions in London.

It has also been loaned several times to a major software house for intensive use in software development.

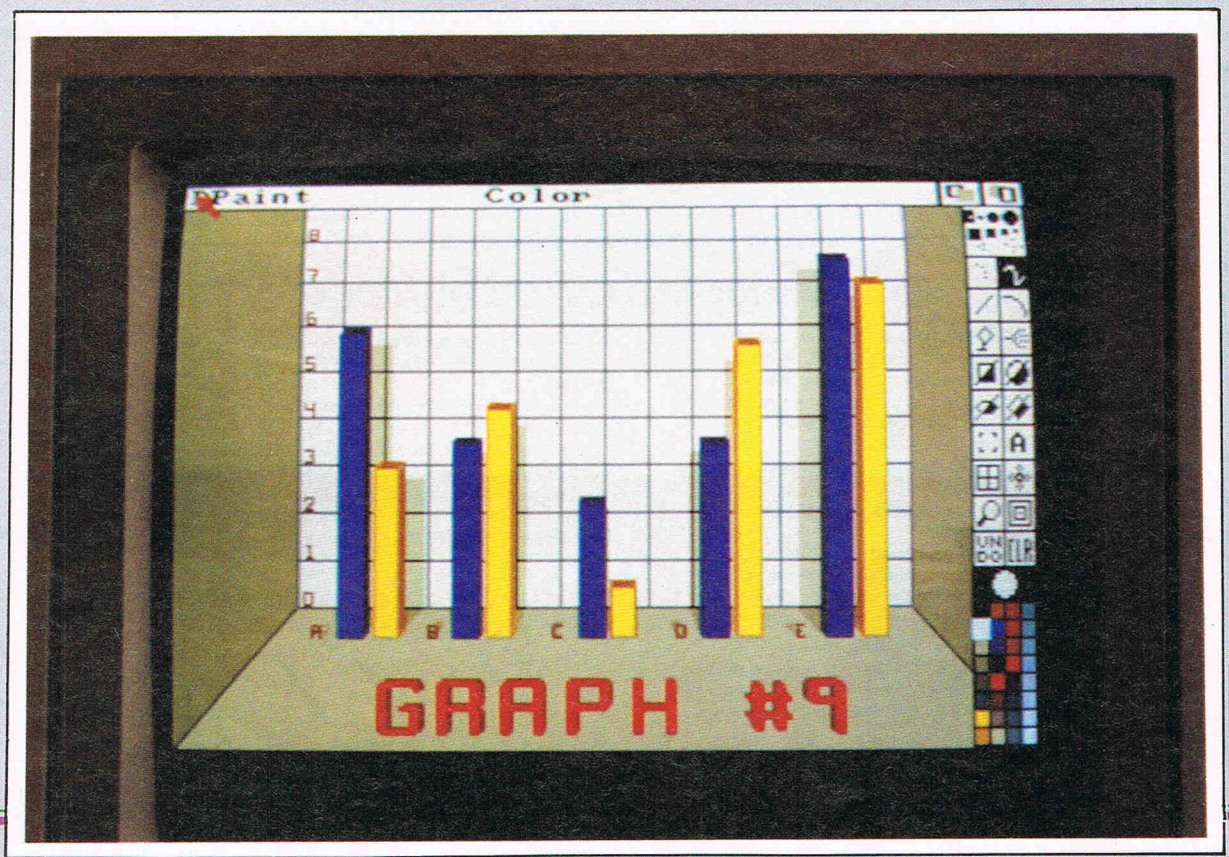
It has also been transported around Kent for demonstration to potential dealers and friends.

During this time my AMIGA has performed flawlessly. I rest my case on the question of reliability of the AMIGA.

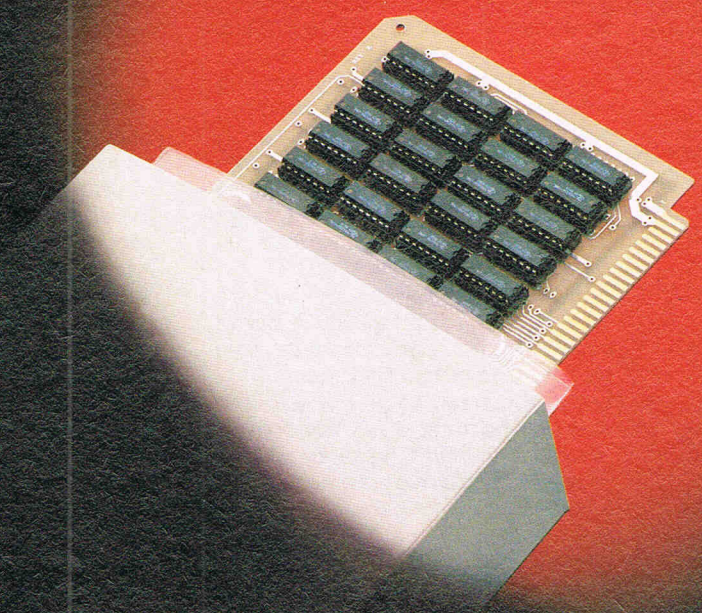
OK, those are my reasons why you can safely buy an AMIGA now. Can you now give me reasons why I was wrong to buy it? The key that summarises the AMIGA to me is the word **FACILITIES**. Never before have so many facilities been packaged into an individual personal computer. I sometimes smile wryly when I hear uninformed comparisons made between the Atari ST range and the AMIGA. I reflect on the slogan 'Power without the price!' employed to market the ST. The slogan seems to be no longer used, maybe Atari heard my reply — compared to the AMIGA the Atari ST range is 'Price without the power!' surely? The affirmative 'tick' logo says it all. There is no doubt about it. This time Commodore got it right.



Sidecar – "The emulation device that allows the AMIGA *complete* emulation of the IBM PC"



Open Up The Power!



Introducing *Pow•R•Card*™ . . . Memory Expansion from RS DATA Systems™

A powerful new 8 Megabyte memory expansion board to give Amiga greater power and flexibility. Multi-tasking and multi-processing gain greater dimension without worry of out-of-memory crashes and dreaded Guru Meditation numbers.

Begin with a 2 Megabyte ***Pow•R•Card*** ™ and upgrade . . . 2 Meg at a time . . . to 8 Meg, or purchase boards populated with a 4, 6, or a full 8 Megabytes of "Fast" RAM for almost unlimited power on the same board without sacrificing valuable slot space. Your ***Pow•R•Card*** ™ fits all expansion boxes manufactured for the Amiga, including the new 7 slot expansion box by The Micro Forge. Imagine . . . up to 8 full Megabytes using only one slot! Only the ***Pow•R•Card*** ™ gives your Amiga that much expandibility on a single board.

No other memory expansion product for the Amiga gives you the memory expandibility and flexibility of ***Pow•R•Card*** ™.

Pow•R•Card ™ . . . the last word in Amiga memory expansion.

The ***Pow•R•Card*** ™ is available now . . . from your nearest Amiga dealer . . . or call RS DATA Systems™ . . . for expansion to the limit.

Trademarks:
Amiga-Commodore Business Machines, Inc.
The Micro Forge-The Micro Forge

RS DATA™ Systems

RS DATA Systems™ ■ 7322 Southwest Freeway, Suite 660 ■ Houston, Texas 77074 ■ 713/988-5441

So what are the benefits to buying an AMIGA? My answers would be as follows:—

1. The AMIGA is easy to use through the medium of it's graphical user interface WORKBENCH. This eliminates the tedious and time-consuming business of having to learn operating system command syntax, etc.

   Some time ago as an experiment I persuaded some complete computer novices to try my own AMIGA using the excellent AMIGA Tutor software. There was no involvement with myself other than to show them how to insert a disk. The average learning period in terms of the WORKBENCH environment was *less than one hour*. Some of these people professed to be anti-computer before starting and afterwards reported feeling much more confident and *less intimidated* by computers.
2. The graphics facilities offered by the machine put it at the forefront of personal computer ability. Video interaction, real-time animation and multiple resolutions are just some of the machine's features. Fast and comprehensive are the only two adjectives needed to fully describe these, the rest must be judged with your own eyes.
3. The sound facilities are far beyond the conventional tone-generator circuits found in conventional personal computers. With a frequency response range of 14kHz and the ability to digitise sound and speech the AMIGA's hardware on this topic are clearly both advanced and powerful. Not least, the clarity and quality of the sound in true stereo have to be heard to be appreciated.
4. The narrator device allows direct translation of on-screen text into speech, another first amongst personal computers at this level. The control afforded to the user without the need for advanced programming extends to selection of male/female, monotone/inflection and rate of delivery/pitch parameters. The process can be further enhanced by the use of phonemes to reproduce foreign languages and accurate dialectic speech in English.
5. The AMIGA is an open-architecture computer unlike other 68000 based machines from Atari and Apple. This means that a purchaser is not forever tied to the manufacturer's own peripherals and thus given freedom of choice. The other major benefit to users is that the main memory of the AMIGA is not permanently fixed in size and can be expanded by the dictates of the purchaser. A closed-architecture machine is not designed to be expanded by the user, a 512k MAC remains a 512k MAC until it dies.
6. All facets of the AMIGA's hardware and system software are well documented and this documentation is freely available now to existing and prospective purchasers at a *realistic cost*. The manufacturer gives unmatched support to registered software developers through the medium of dedicated bulletin boards, regular technical manual updates and a specialised technical reference journal acknowledged to be both accurate and informative.
7. The AMIGA offers true multi-tasking to the user through its advanced operating system which is founded on a system that has had many years of practical multi-tasking multi-user experience. The robustness and security of this system advances the AMIGA beyond any other so-called 'multi-tasking' system found at this level of personal computers. The multi-tasking facility allows 8 processes to operate simultaneously.
8. The storage media used by the AMIGA is not some obscure size that is difficult to obtain or suffers from excessive overpricing by dealers. The 3.50 inch disk format offers both high capacity and physical security to user data. The wisdom of selecting such a media vehicle is confirmed by the number of computer manufacturers now moving over to this size of disk such as IBM.

Continued

Amiga's incredible graphics

Actual unretouched photo.

Aim your video camera and let **Digi-View** capture images with breathtaking clarity. Then use friendly, on screen controls to adjust brightness, contrast and color for the ultimate image. **Digi-View** uses the **Amiga's** exclusive hold-and-modify mode and sophisticated dithering techniques to display broadcast-quality color photographs. **Digi-View's** superb color resolution is made possible by a precision color-separation process that uses color filters (included) and an inexpensive black and white video camera to resolve an amazing 21 bits per pixel, or over 2 million shades.

In the monochrome mode, **Digi-View** features resolution of up to 640x400 with 128 gray levels. Special image processing software eliminates flickering and contour effects. IFF disk format lets you transfer pictures to other **Amiga** graphics programs. For scientific image processing or just plain fun, to exploit the full power of **Amiga** graphics, see your **Amiga** dealer or call toll free for your **Digi-View** video digitizer.

Digi-View - Seeing is believing.

Orders Only
1-800-358-3079 Ext 342
Customer Service 1-913-354-9332

Only $199.95
Video Cameras and accessories available

Capture time	
High-Res 640x400	20 seconds
Low-Res 320x200	10 seconds
Color Separation 320x200	30 seconds

Requires RS-170 Monochrome or RGB Camera with 2:1 interlace

DIGI-VIEW

NewTek
701 Jackson
Suite B3
Topeka, Kansas 66603

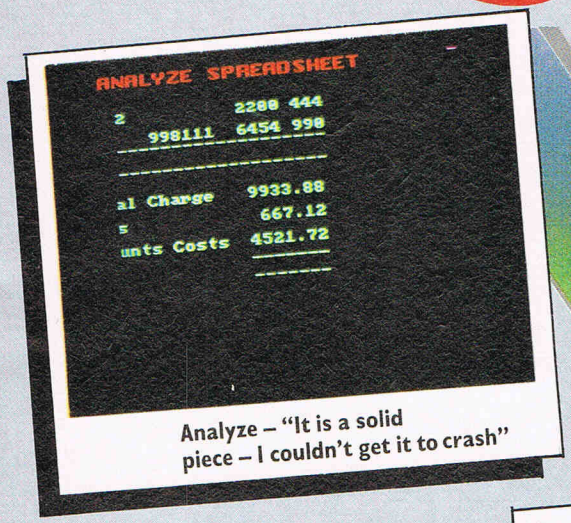
Amiga is a trademark of Commodore-Amiga, Inc.
© 1986 NewTek

will be pleased to learn that the 96 pin expansion bus on the side of the AMIGA gives FULL ACCESS to all of the internal machine buses and is to the MOTOROLA VME specification complete with AUTOCONFIG.

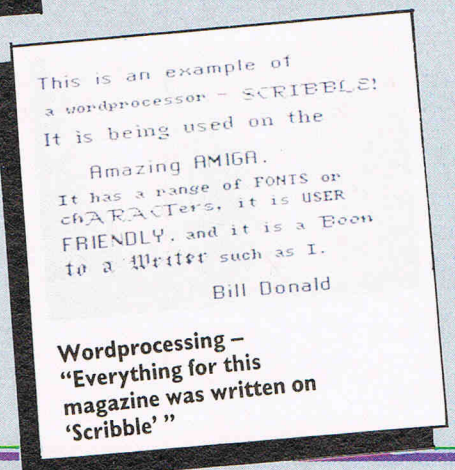
After switching on the AMIGA an icon or image appears on the screen which is a hand-held disk marked 'KICKSTART' accompanied by a little musical tune. This is the cue to the user to insert the KICKSTART (the operating system) disk — loading takes place in less than 15 seconds. Another icon then appears identical to the first except that the music is missing and the name is different. This time the disk is marked 'WORKBENCH' and the loading pattern follows the same course in terms of time. For dedicated applications, the WORKBENCH environment may be superfluous and rather than load the WORKBENCH disk you can at this point, put in your application disk. You will probably find that most currently available software (other than recreational material) runs under the WORKBENCH anyway, although the option not to use WORKBENCH can save memory.

At this point after loading WORKBENCH you should have facing you a blue screen along with an icon in the top right hand corner of the screen. The icon represents a disk and if you have more than one drive with a disk inserted, further icons will be present. The icon is named underneath with the name of the disk or 'volume' in AmigaDOS nomenclature. Along the top of the screen a running total of free user memory is displayed. Manipulations from this point are rather tedious to detail in print. The operations are considerably quicker to actually execute than to describe. I would strongly urge readers to view the AMIGA in the hands of someone who knows the machine and the software it is running to gain a more positive idea.

modore it right!



Analyze – "It is a solid piece – I couldn't get it to crash"


This is an example of
a wordprocessor - SCRIBBLE!
It is being used on the
Amazing AMIGA.
It has a range of FONTS or
cHARACTers, it is USER
FRIENDLY, and it is a Boon
to a Writer such as I.
Bill Donald

Wordprocessing – "Everything for this magazine was written on 'Scribble'"

The graphic abilities of a personal computer are probably the easiest to assess since we can all use an ultra high-precision instrument named the human eye. Personal computer graphics have come a long way from the rudimentary shapes employed in the early recreational software. As time went by, objects and shapes became more closely defined until finally, the arrival of colour. It was undoubtedly colour that brought *'computers to the masses'* although the number of colours available was restricted in terms of the technology and price the consumer was prepared to pay.

One of the unquestioned strengths of the AMIGA is its graphic abilities. Not content with being fast — the range of facilities available make this machine a truly stunning performer. Couple this with the purchase costs of the system and the AMIGA has no real peers. But what are *fast* graphics, what does this mean to someone who has not experienced the AMIGA? In simple terms, the AMIGA has hardware that is fast enough to freeze, capture and then store video frames from either television or a video recorder. Graphs and charts are drawn do quickly as to be instantaneous. The use of multiple screens each of which can be at different resolutions and each screen can contain multiple windows all under the direct control of the user provides a rich environment for effective and creative work at any level of requirement.

The AMIGA has several quantitative levels of colour depending on the resolution demanded, however most applications software produced for the AMIGA to date provide 32 colours, twice that available in the PC market. Notwithstanding the fact that these colours can be selected from a choice of *palette* of over 4,000 colours, the user should have few if any difficulties in determining their exact requirements.

The range of software specifically for graphic applications is growing daily. The main source is the USA, because the machine has been in software developers hands for at least 12 months. Naturally European developers have some way to go to catch up. The standard user complaint of a software *famine* for a new machine was certainly true on the USA launch of the AMIGA. The benefit we have outside the USA is that software is available, your problem as a new purchaser is *knowing where to buy it*. Some of the graphics packages that are currently available are reviewed in depth in this issue.

Continued

Comms – "An extremely comprehensive package"

Com gets

The many months of waiting are now over and the AMIGA is freely available for sale outside the U.S. I use the word *'freely'* with some caution since there are reports of shortages although it is unclear whether this is a lack of dealers in some areas or genuine product shortages. So what does our new buyer get exactly for his $1600.00 or so?

I have detailed the prices at the end of this article for the two configurations available. There is nothing between them other than System 2 contains an additional 3.50 inch disk drive. This system is well worth buying in preference to System 1 because having only one drive is restrictive on storage. Besides, slightly over 1.75 MBytes of storage is quite useful and certainly opens up interesting potential to the user!

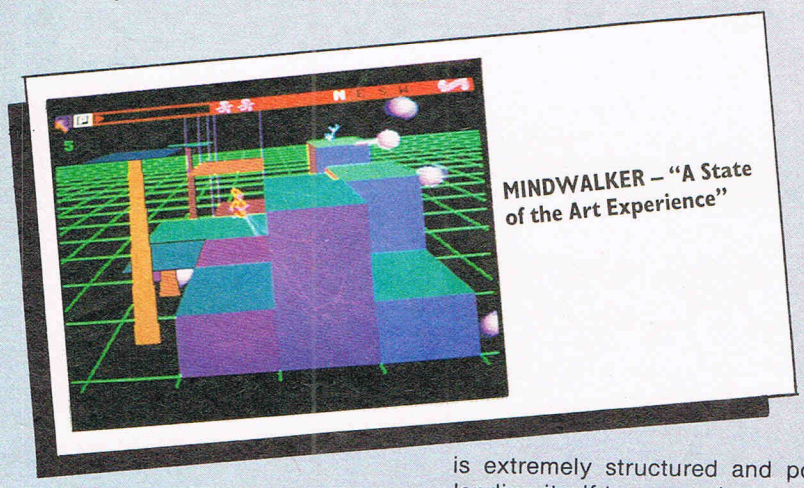
The system comes with 256k of user RAM in the system box along with an expansion card containing a further 256k of RAM. Wisely, Commodore have recognised that we want a 512k AMIGA and the expansion card is easily and neatly installed beneath a cover on the front of the system box. The next step is to connect the keyboard which has an expanding coil cable detachable at either end and then the mouse into the controller port on the right hand side of the system box. For those buyers with System 2, the external 3.5 inch drive has its own dedicated connecting cable and this is connected to the rear of the system box.

Finally, the 600 by 400 high resolution colour RGB(A) monitor is removed from its voluminous box and connected — the cable performing the audio as well as visual function. Note that the AMIGA comes ready with ALL cables to install the system, the only thing you need are two 13A plugs. After assembly which takes around 10 minutes, you are ready. By now you will have realised part of the reason why the AMIGA commands the price it does — the product simply oozes quality from the overall finish, standard of cables and connectors and not least the manuals.

There are two sections to the substantial ring-binder which forms the User Manual. The first section deals with setting-up and operating the AMIGA — the second part is concerned with the AmigaBASIC. It should be noted that each section is in excess of 100 pages. The section of the manual covering the operation of the AMIGA is very well written and makes full use of screen shots (in colour too!) to put across difficult points. The BASIC manual is rather more terse in style, as appears to befit any programming manual. Nevertheless, no complaints about the standard of typography and production which like the first section, is excellent.

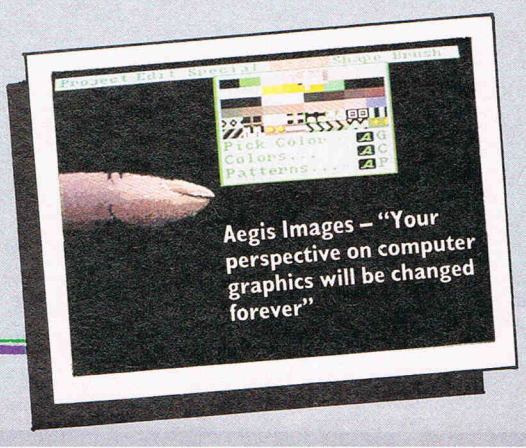
There are four disks supplied with the AMIGA, none of which is copy protected. The first is the KICKSTART disk which contains the operating system, the second disk holds the WORKBENCH. This is the WIMP environment and provides a highly effective and powerful but tractable user interface. I have overheard conversations that INTUITION, the basis of WORKBENCH is based on GEM. Believe me INTUITION runs rings around GEM in both speed and facilities, particularly on the latter. On the third disk there are two rolling demos, one about forthcoming releases from Electronic Arts, the second demo provides displays of dynamic graphic facilities. Finally, the fourth disk contains AmigaBASIC along with AMIGATutor, a very good teaching program which makes full use of the graphics of the AMIGA. The manual gives emphasis and very clear instructions on dealing with your first operation on the AMIGA — backing up to your two system disks and the AmigaBASIC disk.

AmigaBASIC was written by MICROSOFT and unless you have used MACINTOSH BASIC or QuickBASIC it is quite unlike any BASIC you have seen. It is extremely structured and powerful lending itself to comparison with PASCAL and COMAL and AmigaBASIC is rather fast — it's benchmarks are breathing down the neck of IBM BasicA. So what, you may say, BasicA is not that quick. Maybe not on an IBM-PC — the comparison I was making with the **BasicA on the IBM-AT**, a machine costing THREE TIMES THE PRICE of an AMIGA.

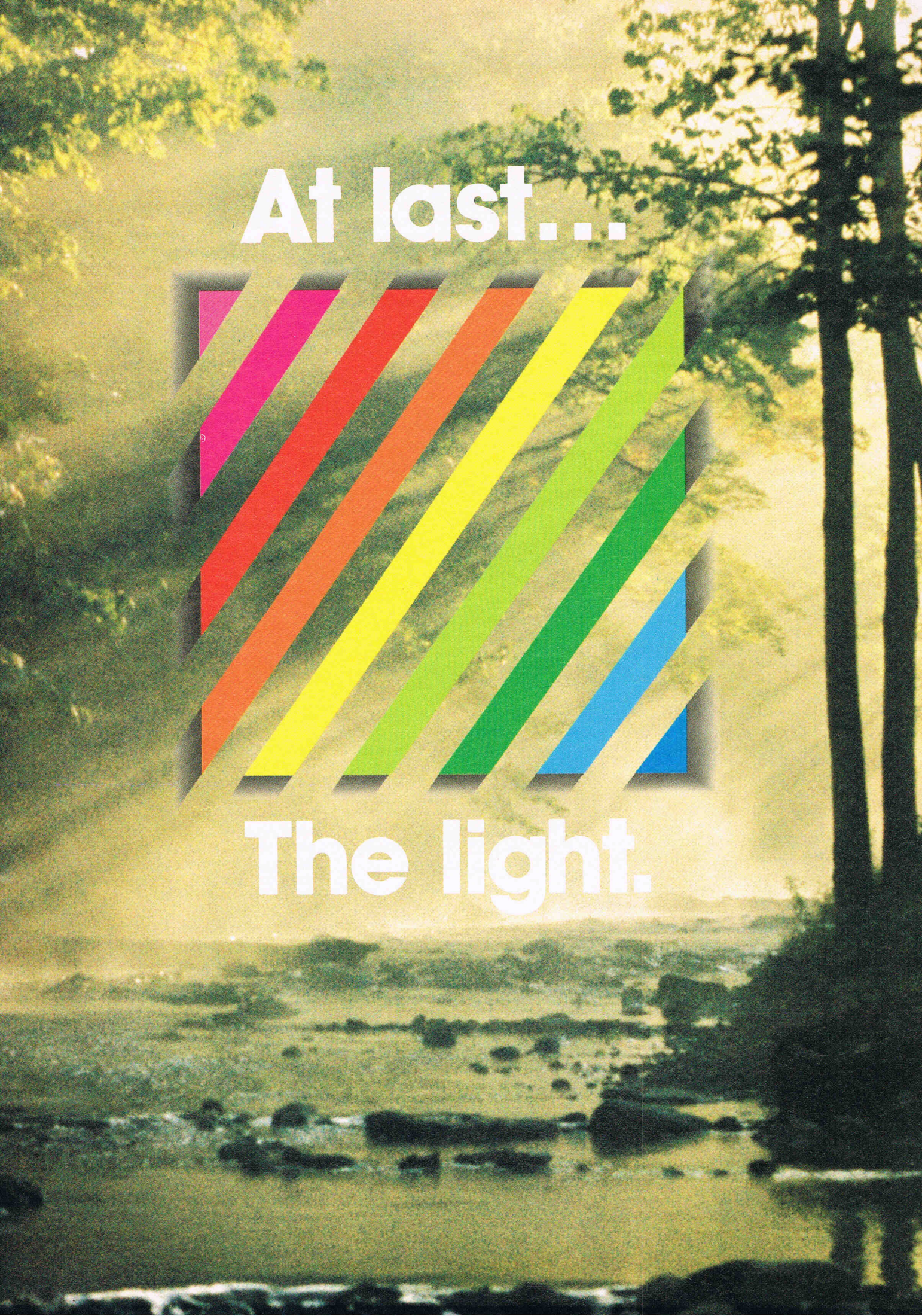


MINDWALKER – "A State of the Art Experience"

The memory of the AMIGA, that is *usable RAM for YOUR applications* is the full 512k. Note there is no loss of RAM caused by the operating system. This resides further up the processor address space and is kept locked from user intervention in an area termed the *'write protect store'*. The 68000 processor in the AMIGA can adddress 16MB directly and the AMIGA as it stands, is configured to take 8MB of additional RAM on the expansion bus. It is more likely that the machine could take 15MB although the power requirements would be quite high — you are looking at TTL supply requirements in excess of 20 amps for 8MB, therefore component cooling can become a problem if this 8MB consists of NMOS material — it rather depends very much on the ambient operating temperature. Hardware fans



Aegis Images – "Your perspective on computer graphics will be changed forever"


At last...
The light.

Digital Solutions Inc. brings you the light with easy to use software specifically designed to use the power of your Commodore Amiga™.

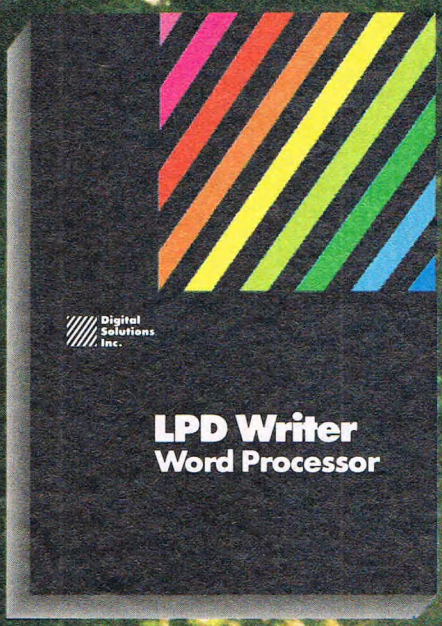
Announcing:
LPD™ Writer
LPD™ Planner
LPD™ Filer

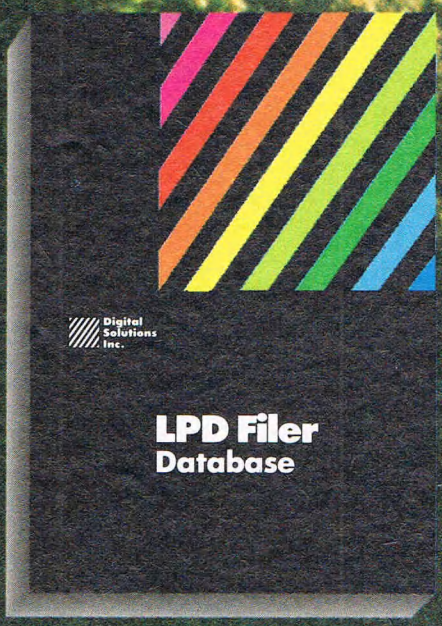
Each of these programs give you all the functions you would expect from productivity software plus the following unique features:

LPD™ Writer, LPD™ Planner and LPD™ Filer can run individually or together. When running together, information can be transferred from one application to another manually, or automatically using "links", a transfer procedure unique to LPD software.

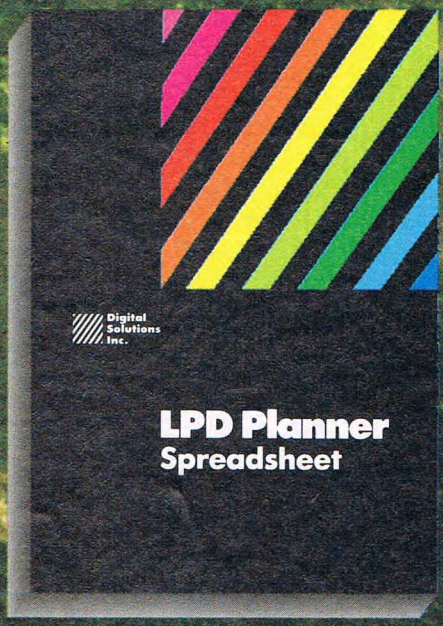
The software allows you to see all projects and applications through windowing. Each application can then be "zoomed" up to full screen size. You can execute a command by using the mouse, function keys or "short cut" command sequences. A "suspend" feature allows you to put away all applications you are currently working on and a "resume" command will restore the applications to the pre-suspended state. Also featured is on line memory resident help.

In addition, LPD™ Writer, LPD™ Planner and LPD™ Filer each have their own very special characteristics.





LPD™ WRITER/Word Processor*
multiple documents can be edited at the same time
more than one window can be opened on a document
on screen representation of documents as they will be printed (including line spacing, superscripts and subscripts)
on screen headers and footers
underlining, boldface and italic enhancement of text



LPD™ PLANNER/Spreadsheet*
multiple spreadsheets can be manipulated at one time
more than one window can be opened on any spread sheet
spreadsheet size: 256 columns by 65,536 rows
sideways printing
cells can be displayed underlined, boldface and italicized
pie charts, line graphs, bar graphs and stacked bar graphs available
variable width columns
horizontal, vertical and "smart" recalculation

*Available October, 1986

LPD™ FILER/Database*
multiple databases can be used at one time
more than one window can be opened on a specific database
multi-page record layouts
six field types: numeric, character, logical, date, time, note
user-definable order of field entries and default field values
calculations during record entry
databases may be sorted on multiple fields simultaneously
use of index files for fast access
report generation including headers, footers and record-by-record calculations.

Powerful software that's simple to use.

Digital Solutions Inc.
30 Wertheim Court, No. 2
Richmond Hill, Ontario
Canada L4B 1B9
Telephone
(416) 731-8775

*Amiga is a trademark of Commodore-Amiga, Inc.

COMMODORE

BUSINESS and AMIGA USER

AUGUST 1986

Commodore gets it right!

The amazing AMIGA – now at work in business and leisure – the definitive story

PC PLUS *EXCLUSIVE!!*

The 128D gets down to business

FREE! FREE! FREE! GREAT AEGIS POSTER

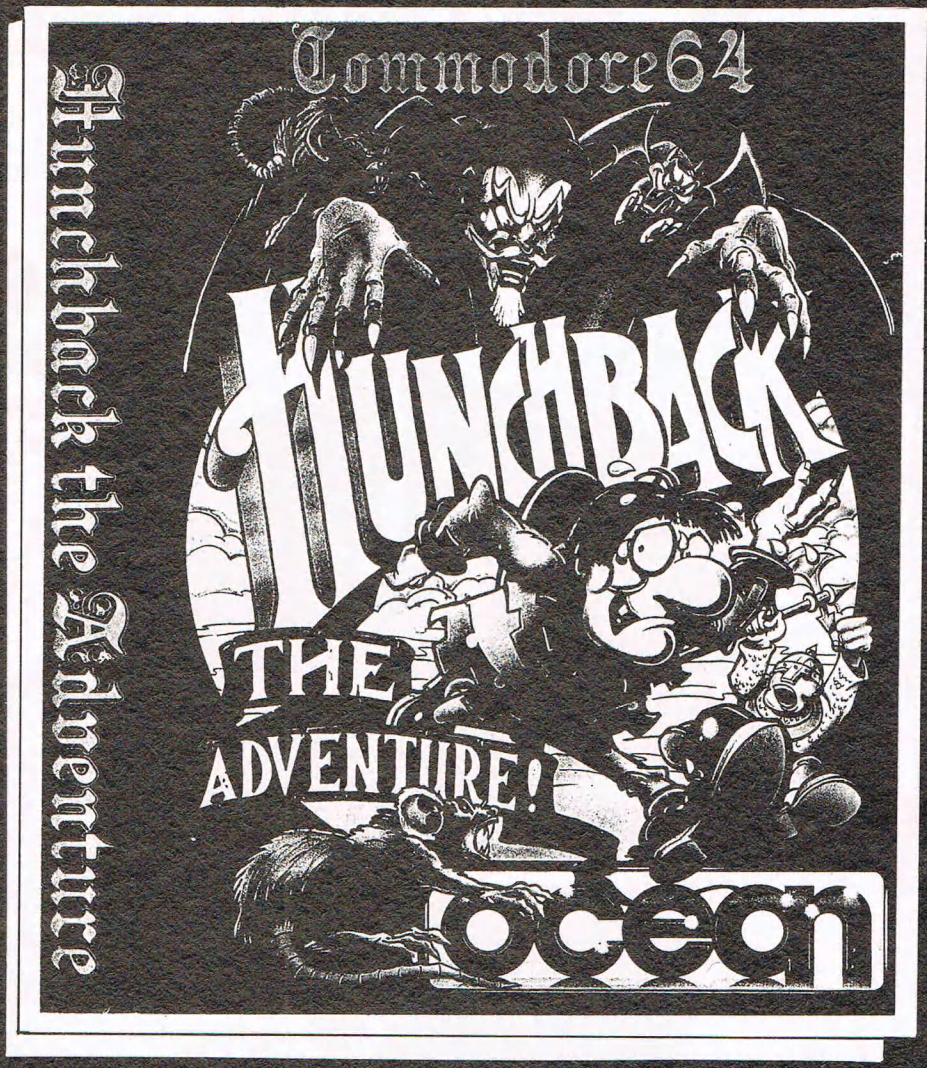
CCI Rating

MEGA

Toujours l'aventure!

Hunchback III

The adventure from Ocean



Sounds like one of those multi-part films doesn't it, and no it isn't in 3D. Hunchback III is Ocean's first adventure, and is a pretty good attempt too. As a company that has previously devoted its energies to producing action games, this marks a departure, and one which I hope they will follow up (Hunchback IV? Mon Dieu zis iz getting wurz zan Rockee!

Somewhere in the outskirts of Paris your cherie Esmerelda has been kidnapped by that nasty ol' cardinal and the Bishop of Notre Dame. Quasimodo (ze bells, ze bells zey ring in ma tête!) must attempt a daring escape, humping (pardon me) your way out of Notre Dame in the first part of the adventure, hobbling along under the streets of Paris in the second, and finally to confront the Cardinal and escape with Esmerelda. I don't want to nit pick (or as the French would say - encouler les mouches; look it up!) but Hunchback does go a little too far in its jolly humour. The introduction in the 'manual' is very witty but I draw the line at being asked by a picture of Quasi at the top, 'What Now?'

Unfortunately, Ocean have also opted to go for one of those very pretty but very unreadable designer character sets that seem to be so popular. OK, the built-in font may not be fantastic but at least you can read it! Having said that, it does add a certain 'je ne sais quoi' to the game and certainly presents a nice picture!

The prose itself is well written, and succeeds in being both witty and informative without being monotonous.

The game is a graphical adventure. All the objects you are carrying (up to 6) are displayed on the far right. A background scene appears neatly on the far left, and every now and then an event scene will apear to depict some happening, such as being attacked by a guard. It differs in this way from almost all other adventures in its use of graphics, and is great fun.

The game loads in three parts. Once part one is finished, part two loads and so on. In total, it is over 100k long. Although hardened adventurers may cringe, it's really great. Good for a bit of fun, and also, most importantly, a great adventure.

Sacré bleu! J'aime becoup des adventures comme Hunchback. C'est fantastique! Vive l'Hunchback! Vive l'Ocean. Vive la guerre! (Ed? Excusey moi . .).

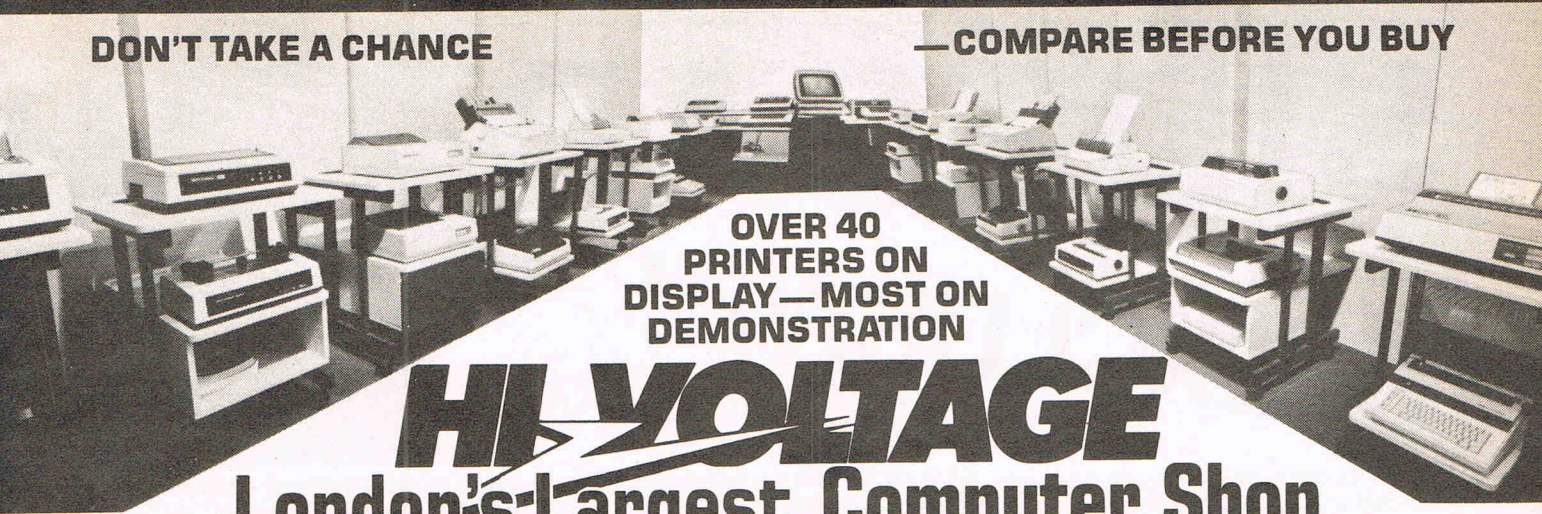
Price: £9.95
Graphics: ★★★★
Sound: ★★★★ (loading music)
Playability: ★★★★
CCI Rating: MEGA

GRIP STICK · GRIP STICK · GRIP STICK · GRIP STICK · GRIP STICK · GRIP STICK · GRIP STICK · GRIP STICK · GRIP STICK

GRIP STICK · GRIP STICK · GRIP STICK · GRIP STICK · GRIP STICK · GRIP STICK · GRIP STICK · GRIP STICK ·

LONDON'S LARGEST DISPLAY OF PRINTERS MONITORS COMPUTERS AND PERIPHERALS

DON'T TAKE A CHANCE — **COMPARE BEFORE YOU BUY**



OVER 40 PRINTERS ON DISPLAY — MOST ON DEMONSTRATION

HI-VOLTAGE

London's Largest Computer Shop

The London AMIGA Centre

Hi-Voltage are the Amiga experts. As Commodore's largest computer store we are proud to give the world's most advanced computer pride of place in our showroom. We stock the most comprehensive range of peripherals and software including colour printers, as they become available. New items are arriving every day so contact us now!

FREE on site service during the first year

NEW HARDWARE AND SOFTWARE CATALOGUE JUST PRINTED — PHONE FOR YOUR FREE COPY

STOP PRESS — Scribble Word Processor now in stock

OPEN MONDAY-SATURDAY 9 AM-6 PM

OPEN MONDAY-SATURDAY 9 AM-6 PM

ALL PRICES INCLUDE VAT

EXPORT
Contact our specialist export department on 01-686 6362

CBM 64

C64 Computer	£159.95
C64 Comp. + music keyboard pack	£319.95
C64 Compendium	£189.95
64 Music System Expander Pack	£145.95
1541 Disk Drive	£164.95
C2N Data Cassette	£34.95
Philips 1114 Colour TV/Monitor	£199.95
CBM 1900M green screen monitor	£89.95
Modem for 64 or 128	£59.95
Mastertronic Ski Writer WP	£14.95
Currah Speech Synth	£19.95
Konix Speed King Joystick	£12.95
Tasword 64 80 col WP	£19.95
Activision Music Studio	£19.95
CBM Sound Sampler	£69.95
Wigmore MS2000 Mouse (cass)	£57.95
Graph Pad II Graphics Tablet	£59.95
CBM Music Maker 1 Keyboard	£9.95
Final Cartridge	£44.95

CBM 128

C128 Computer	£259.95
CBM C128 Compendium	£289.95
C128/C2N/Music Pack	£439.95
C128D Computer inc Disk Drive	£499.95
C128D inc Disk Drive + Monitor	£589.95
C128D inc Disk Drive + Monitor + MPS1000 Printer + micro clerk	£899.95
1571 Disk Drive	£259.95
1901C RGB Colour 80 Col Monitor	£289.95
CBM 1900M green screen monitor	£89.95
Script 128 Word Processor	£49.95
Micro Clerk Accts/WP/D. Base/Calc	£99.95

PRINTERS

MPS 803 Dot Matrix	£149.95
MCS 801 Colour Printer	£199.95
DPS 1101 Daisy Wheel	£279.95
MPS 1000 NLQ Dot Matrix	£274.95
Star NL 10C NLQ Dot Matrix	£259.95
Riteman C + NLQ Dot Matrix	£259.95
Ram CBM/Centronics I/F	£39.95

EXCLUSIVE OFFER

CBM 1520 Colour Printer Plotter, NLQ, Graphics, 4 Colours

£79.95 inc VAT

SOFTWARE — SOUTH LONDON'S LARGEST RANGE OF COMMODORE PROGRAMS

Many discounted titles for CBM 64, Plus 4, C16, VIC 20, C128

dBase II database for CBM 128 **£119.95**

Sage Accounts for CBM 128 **£99.95**

Print Shop desk top publishing for 64/128 **£37.95**

Superscript and Superbase Bargains

1. **Superscript 64** Normally £69.95 — OUR PRICE	£49.95
2. **Superbase 64** Normally £99.95 — OUR PRICE	£59.95
3. **Superscript 64** and **Superbase 64** Normally £169.95 — OUR PRICE	£99.95
4. **Superscript 128** Normally £89.95 — OUR PRICE	£74.95
5. **Superbase 128** Normally £99.95 — OUR PRICE	£74.95
6. **Superscript 128** and **Superbase 128** Normally £189.90 — OUR PRICE	£134.95

DYNEER DW12

(Identical to Silver Reed EXP400) high quality daisy wheel printer with superb specification

£139.95 inc VAT

With CBM I/F **£159.95** inc VAT

Largest range of floppy disks and printer ribbons available in London over the counter.

Floppy disks from BASF, 3M, Verbatim, Dysan, TDK, Sony, Maxell and JVC.

Mail Order + Export Hot Line Phone 01-686 6362

Delivery by Securicor (4 day) please add £5.75 per item.
Delivery by Securicor 24 hour please add £9.95 per item.

Access VISA

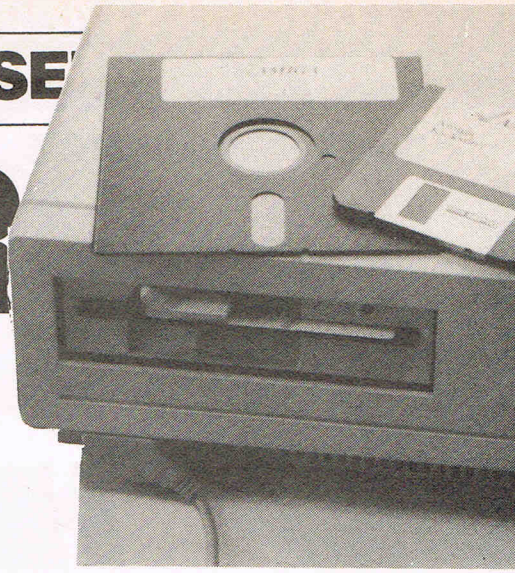
Send off or order by 'phone quoting your Access, Visa No. 'Phone 01-686 6362. Immediate despatch on receipt of order or cheque clearance. Or Telex your order on: 946240 Attn 19001335. **EXPORT CUSTOMERS SUPPLIED TAX FREE.**

ALSO VAST RANGE OF DISK DRIVES, JOYSTICKS, DISK BOXES, INTERFACES, SHEETFEEDERS, ETC

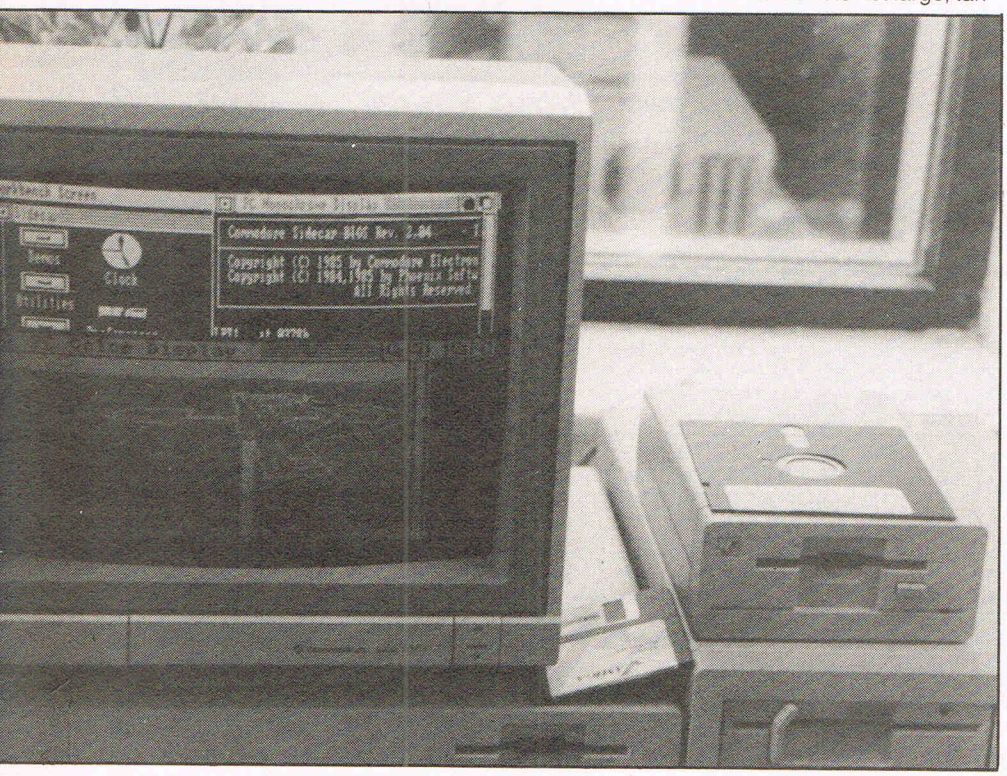
HI-VOLTAGE 53-59 High Street, Croydon, Surrey CR0 1QD. Tel: 01-681 3022

SIDECAR

EXCLUSIVE!



Sidecar is not a myth after all! What is Sidecar? It is possibly the most important device that the AMIGA could have to turn it into a true business machine. And the AMIGA makes any other comparable computer look out of date. I've just returned from the offices of Commodore Electronics Ltd where Gail Wellington, International Software Manager was not just content to provide a detailed, demonstration but also allowed CCI an opportunity for use the device for ourselves.



SIDECAR is the hardware device that allows the AMIGA *complete emulation of the IBM-PC*. SIDECAR, at present, is very limited in numbers and has not yet been released. We hear, however, there are now 1000 under technical and safety evaluation in the U.S. and by September it should make Europe in commerical numbers. SIDECAR was launched at the recent COMDEX Show in Atlanta, USA and reportedly received a very positive reaction from both retailers and potential end-users alike. No prices as yet but reliable sources indicate a USA retail price of substantially less than $1000 could that mean around the $500 mark. I certainly hope so, for that will bring it within the reach of everyone who is even considering a PC.

SIDECAR was developed by the Commodore-Amiga engineering team led by the Master Engineer himself Bill Kolb in collaboration with hardware engineers from Braunschweig, the site of Commodore's West German operation. the device itself is a hardware add-on which is attached to the expansion post of the side of the AMIGA, leaving existing ports at the rear of the AMIGA are unobscured. It is not large, taking up about 25 cm.sq. with a 5.25 inch drive at the front. The hinged lid reveals 3 *full-size* expansion slots inside along with a self-contained power supply for both the slots and drive. Examples of the thought behind the design include the placement of the AMIGA mouse ports in the front of the SIDECAR (the originals are masked by the SIDECAR) and just one power supply cable to connect the complete system up since the monitor and AMIGA power supply sockets are now connected by flying leads from the SIDECAR.

The unit contains an 8088 running at the standard IBM-PC clock speed of 4.77 MHz and differs from the TRANSFORMER which provides *software emulation* of the IBM-PC. Naturally TRANSFORMER is slower and more limited in scope and hence the impetus for a hardware assembly that would not sacrifice these two important parameters and provide *full compatibility and speed*. The expansion slots are *full-size* and following the segmented addressing approach used by Intel processors, RAM expansion cards in the slot may be partitioned — part for the 8088 and the residue for the native 68000 in the AMIGA. Obviously the use of a daughter board would negate the need for a slot containing RAM unique to the 68000 although there is an overhead here — the maximum limit of RAM expansion of the AMIGA is reduced to 6.0 MB using the SIDECAR. It seems that the missing 2.0 MB are used as 'Checkpoint Charlie' by the two processors.

The full features of the SIDECAR are enumerated below, with full support of all IBM display modes. Special extensions to the system software supplied with the unit allow the user to create PC displays that emulate multi-tasking displays of the AMIGA.

- Complete IBM-PC software compatibility
- PC Alphanumeric MONO adapter emulation
- PC Colour/Graphics adapter emulation (standard and enhanced)
- Emulation of all types simultaneously on a single monitor
- 3 Full size expansion slots
- 256k RAM supplied as standard expandable up to 640k on main board
- Local uPD765 disk controller
- Built-in half-height 5.25 inch 360k drive with connector for additional drive
- Provision for optional 20 MB hard disk
- Access to both AMIGA Parallel and RS-232 Serial ports
- Internal timer, interrupt controller and DMA controller 16k BIOS ROM
- 128k dual port RAM for fast access to AMIGA
- 8087 co-processor socket
- Provision to expand AMIGA RAM directly by a special connector on the SIDECAR.

IS HERE.

The system startup is slightly modified from that of a conventional AMIGA. While the AMIGA is booting-up the SIDECAR goes through it's own conventional PC routine of a memory parity check procedure and then waits for an interrupt from the 68000. On recipt of the interrupt a copy of the 68000 interface code is placed in the common 128k RAM area and the 8088 then continues with the bootstrap operation which finishes with the placement of the 8088 interface code is the shared buffer. The interrupt structure between each processor is shared, in the case of the 68000 this uses mainly the BR, BG and BGACK signals whilst the 8088 uses the DEN, DT/R and WR signals. The bus arbitration employed is sufficiently robust and stable enough to allow completely asynchronous operation of both processors and their associated systems since the function request is pipelined until a function acknowledgment is received.

Display emulation is done under the auspices of an AMIGA window. The emulation is 100% since the data is bought from the 8088 display RAM which eliminates the possibility of display failure brought about through the use of display tricks by applications software. The window on the AMIGA screen uses the menu structure of INTUITION to providea huge range of options. These options provide a much greater range of modification and control over the PC display, more so than those available to actual PC owners. For example, control extends to modification of the colours themselves or emulation of multitasking displays by opening additional windows into the video display and halting or freezing the information contained within these windows by switching to another window or back to the main window. Note that there is no loss of the standard test display of 80 characters by 25 lines of the IBM-PC through the use of an AMIGA window. The borders of the window and menu bar can be made to disappear completely if required. Provisioin is made for the display of a real-time clock from the 8088 mode by means of a small AMIGA window. Of particular benefit to *power users* is the ability to save display setups as system defaults which represents a considerable time saving when several applications are to be used in the course of a working session.

The interface between the 68000 of the AMIGA and the 8088 of SIDECAR is interrupt-driven from a generator according to pre-defined events within the system. It is also possible for either processor to use the hardware support facilities of either system viz. *the 8088 use AGNUS, DENIS or PAULA directly without the encumberance of the 68000.* This is a very novel and rich environment afforded to hardware or software engineers and opens up a huge potential market. Data communication between the two devices takes place via the 128k dual-ported RAM with the video portion of the 8088 being directly mapped on this RAM. Since this video mapping is transparent to the 8088, compatability to applications using either ROM BIOS or direct routines is enabled. Applications running on the AMIGA can utilise the data contained in the interface RAM for window creation emulating the PC display. The system software provided with SIDECAR allows for the emulation of both monochrome and colour graphics within standard AMIGA windows — simultaneously if necessary since different section of the interface RAM are used.

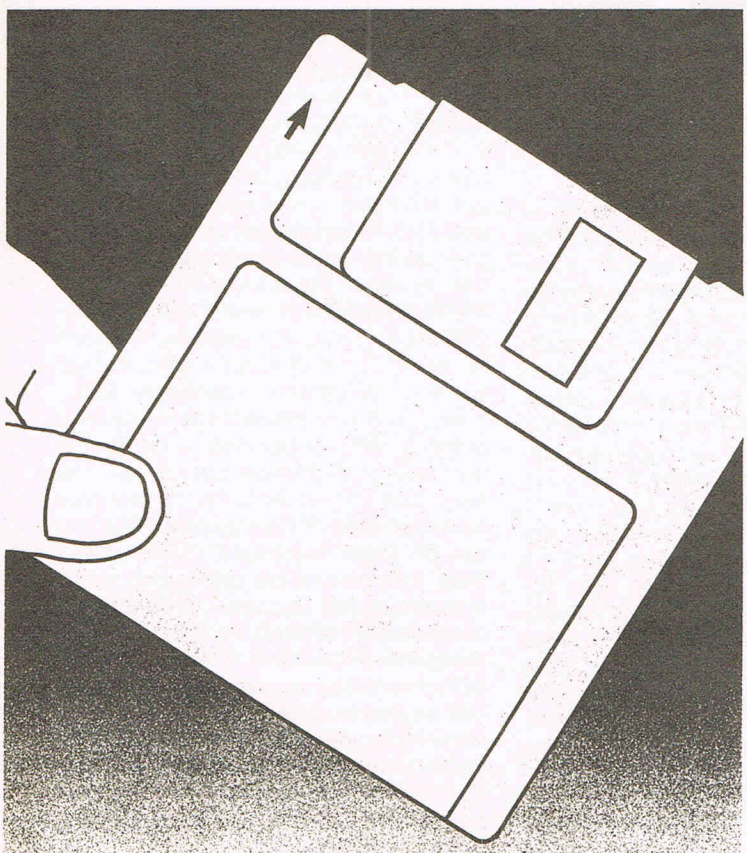
3.5 PC-DOS disks

Keyboard input is done through the AMIGA keyboard thus obviating the need for purchasing another keyboard. Access to the 8087 co-processor by the 68000 is feasible when fitted which also applies to any hardware the user may have fitted to the 8088 expansion board. Additional mass storage can be provided to the 68000 by means of a hard disk fitted in one of the 8088 expansion slots through partitioning hard disk DMA to either processor. An AMIGA 3.50 inch drive unit with a formatted capacity of 720k (PC-DOS format) may be connected to the SIDECAR through a special port at the rear and provides the user with a increase of 100% in storage capacity over the standard 5.25 inch 360k drive. This also provides the benefit of being able to use disks to the very latest media standard, namely the 3.50 inch PC-DOS disks. By employing the uPD 765 disk controller as used in the IBM-PC compatibility problems caused through disk copy-protection schemes are avoided. Since the expansion slots are full-size and completely compatible this provides the user with access the enormous range of third-party add-on cards.

We did have the opportunity to try out several applications supplied by CEL — these included WORDSTAR 2000, FLIGHT SIMULATOR and a LOTUS 1-2-3 clone. All worked perfectly, we made a point of checking the the printed output facilities — no problems in that direction. However, just to make sure we took along some applications of our own to run — these were SIDETRACK, DISPLAYWRITE II and TURBO PASCAL. Once more no problems. We have no doubts at all that the much abused word *compatible* is absolutely accurately used here. However, there are two points worth considering — the first is that software houses recognise the existence of clones and compatibles and now write PC applications that will run on these machines, if they didn't then they would be commiting commercial suicide. Secondly, the degree of compatibility offered by the SIDECAR ranks the unit close to, if not at the head of this very long queue. Given the financial problems suffered by the company earlier this year it is highly unlikely that assets would be, or could be wasted on developing non-starters. We do not believe SIDECAR to be remotely likely to be in that category.

SIDECAR offers Commodore through the medium of the AMIGA family yet another crack at the lucrative PC market. By a demonstration of hardware engineering skills of the highest order they have utilised the powerful platforms of both the 68000 and the AMIGA specialised circuits to produce a system of huge potential in graphics, audio and process control applications. MACCHARLIE may have pointed to an untapped market but failed to capitalise on this market by a combination of high price and limitations of the MACINTOSH itself, viz. no multitasking, poor display emulation and inadequate software compatibility. The benefits to an existing dweller in the PC workd are twofold — *they can use their software AND hardware add-ons.* The sandstorms of hype and novelty may have receded on the AMIGA now and the moment of decision is near. Is it a commercial runner or not? — does it offer any real benefits? — will it save me money? The personal computer market is driven by two factors only — cost and technical innovation. **The AMIGA and SIDECAR combine both factors to produce an entity that can and we predict will, crush its opposition and cement the position of the AMIGA as the leader in low cost, innovative business computers.** *Power Users* please queue here for the SIDECAR

In the next issue we will continue our report of this very exciting and important development and deal with the software aspects of SIDECAR.



THE MIRROR

DISK COPIER

$49.95

The Mirror Disc Copier is Amiga computer's **most powerful** disk copier. Specially designed to back up heavily protected disks, to date it's **100% successful.** Completely automatic. No knowledge of Amiga Dos required.

Our **liberal update policy** lets you make backup copies even when protection schemes change. Works on **single** or **dual** drive systems. Don't take chances with your expensive software. *Back it up with the Mirror disk copier!*

Also Available!

The Mirror 'Hacker' Package

For serious disk analysis

MasterCard, Visa, M.O. or check + $3 shipping and handling. C.O.D. or foreign orders add $3. California orders add 6% sales tax.

Write or call:

Compumed

MasterCard VISA

(408) 758-2436
P.O. Box 6939
Salinas, CA 93912

LIONHEART

BUSINESS & STATISTICAL SOFTWARE

PC/MS-DOS (5¼ & 3½), MACINTOSH, AM'GA ATARI ST, C64/128, CP/M, APPLE DOS 3.3

Explanatory books with professional compiled software; the new standard for statistical use. The influential Seybold Report on Professional Computing has this to say about Lionheart "... our sentimental favorite because of its pragmatic approach to the basic statistical concepts... The thinking is that the computer merely facilitates the calculations; the important thing is to be able to formulate a problem correctly and to determine what type of analysis will be most valuable." Let Lionheart help you get ahead of the competition! Spreadsheet compatable.

- **BUSINESS STATISTICS** $145
- **EXPERIMENTAL STATISTICS** 145
- **MULTIVARIATE ANALYSIS** 150
- **EXPLORATORY DATA ANALYSIS** 75
- **STATISTICS FOR MARKETING** 150
- **QUALITY CONTROL & INDUSTRIAL EXPERIMENTS** 145
- **FORECASTING AND TIME-SERIES** 145
- **SALES AND MARKET FORECASTING** 145
- **DECISION ANALYSIS TECHNIQUES** 110
- **LINEAR & NON-LINEAR PROGRAMMING** 95
- **PERT & CRITICAL PATH TECHNIQUES** 95
- **OPTIMIZATION** 110

VISA, MasterCard, AMEX, Check

P.O. Box 379, ALBURG, VT 05440

(514) 933-4918

SUPER ***AMIGA*** SOFTWARE NOW AVAILABLE!!

PAR Home I Personal Financial Manager: integrated checkbook and budgeting with comparisons, personal worth statements, "spendaholics exam", life insurance and college financing planner, lease/buy, retirement contributions and annuities, complete loan amortizations, reports and graphic options with barcharts, and much more! **Retail $69**

PAR Real I Real Estate Analyzer: income property analysis, financial statements, "creative" amortizations, balloon and variable payments, loan evaluations, multi-year what if" forecasting, cash flow, tax benefits, rates of return, depreciation, key ratios, purchase/sell agreements, reports, 3-D graphics, speech, and much more! **Retail $149**

MC, VISA, AMEX Accepted

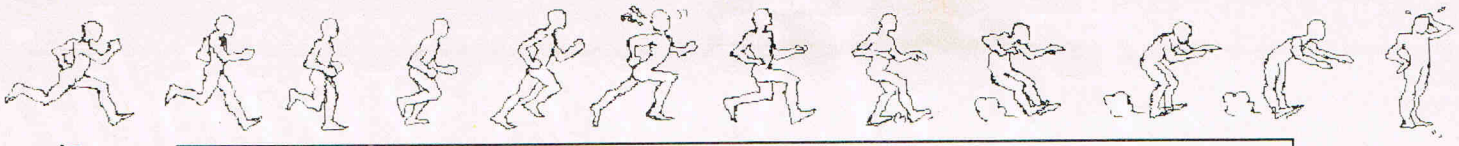
SPECIAL NOTE

We are actively seeking to develop business relationships with software dealers, developers, licensors, publishers, and distributors in all countries with the objective of mutual profitability. If you have an interest in any of these areas, please contact us direct.

We accept 3rd party software submissions!

PAR SOFTWARE INC.

P.O. BOX 1089, VANCOUVER, WA 98666 USA (206) 695-1368
FAX (206) 699-4824



Amiga™ Dreams come true with

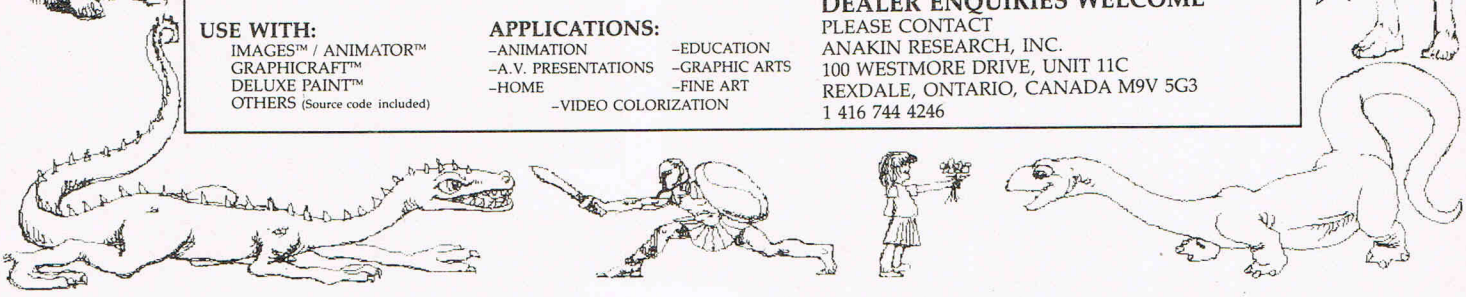
EASYL™

A pressure-activated drawing pad, the EASYL™ lets you draw directly into the Amiga with a pencil.
EASYL™ is the ultimate in sensitivity and responsiveness.
Why be limited to the mouse?
Why be constrained by electronic pens?
Draw on your full creativity — with EASYL™!
ACME™ or OXBERRY™ compatible registration pegs for producing frame-by-frame character animation are available. Please enquire.

DEALER ENQUIRIES WELCOME
PLEASE CONTACT
ANAKIN RESEARCH, INC.
100 WESTMORE DRIVE, UNIT 11C
REXDALE, ONTARIO, CANADA M9V 5G3
1 416 744 4246

USE WITH:
IMAGES™ / ANIMATOR™
GRAPHICRAFT™
DELUXE PAINT™
OTHERS (Source code included)

APPLICATIONS:
–ANIMATION
–A.V. PRESENTATIONS
–HOME
–EDUCATION
–GRAPHIC ARTS
–FINE ART
–VIDEO COLORIZATION



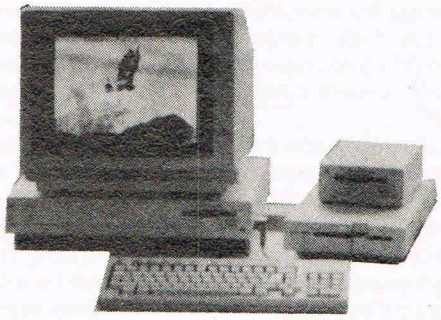
Amiga™, Images™/Animator™, Graphicraft™, Deluxe Paint™, Easyl™, Acme™, Oxberry™, and IBM™ are trademarks of Commodore/Amiga, Aegis Development, Commodore/Amiga, Electronic Arts, Anakin Research Inc., Acme, Oxberry and IBM respectively.

All drawings were created using EASYL™ with Deluxe Paint™ on the Amiga computer and output on an Ink-Jet printer.

VAMIGA™

IS NOW AVAILABLE ON HUMBERSIDE!

- ★ For business, personal, educational and applications computing with the most versatile computer on the market.
- ★ One year warranty with full maintainence.
- ★ Advice and software support for programmers.
- ★ 24 hours, 7 days a week, message system for prompt response.
- ★ Special applications programming for Amiga (and other machines) for businesses with a specific need.
- ★ Located on the High Technology Science Park at the University of Hull with fast access by road from all parts of the region.
- ★ As software developers for the Amiga we have extensive knowledge of the complex operating system that gives this computer its outstanding power.



SOPHUS
Software Ltd.

Unit 2C, Newlands High Technology Centre, Inglemire Lane, Hull HU6 7TQ
Telephone: 0482 802142. Message Service Ex. 4.

ÆGIS gets graphic

Only rarely in the evolution of the microcomputer has truly great hardware been matched with truly productive software. Amiga meets Aegis. Software so intuitive the Amiga becomes limited only by your imagination. Aegis now has nine graphic reasons why you should be creating with Commodore's Creative Edge:

Aegis Images™

The professional paint system for Amiga. Use *Images* as a graphics processor to produce renderings of buildings, design sets and costumes for theatre, create layouts and concepts in advertising, or artwork for custom Amiga programs. Use it anywhere art and design is created by hand.

When combined with Genlock, *Images* can create mats and other video effects. If you pass paintings to Aegis *Animator*™, you can create a rolling slide show for demos or backgrounds and windows for animations.

(See your dealer to find out about the trade-in value of your Graphicraft or Deluxe Paint™ disks. You could receive a $50.00 value graphics art kit free from Aegis!!)

Aegis Animator™

A full feature metamorphic animation system. Use *Animator* to put your ideas in motion. *Animator* is the only graphics animation system that supports 3-D manipulations of objects. Create storyboards, enhance graphical presentations, or experiment with visual effects before committing them to traditional animation methods. Use paintings with Aegis *Images*, *Graphicraft*,™ or other paint systems to produce continuous demonstrations. When used with Genlock you can produce special effects for video or animated titles and scrolling credits.

Impact™

Impact creates business presentation graphics with finesse. Pie charts, bar graphs, icons, plots, and trends combined with a structured drawing system give you the visual edge to get your point across. Use *Impact* to produce rolling slide shows for trade show presentations, or to enhance verbal reports. The graphs and slides can be printed for use in written reports.

Aegis Draw™

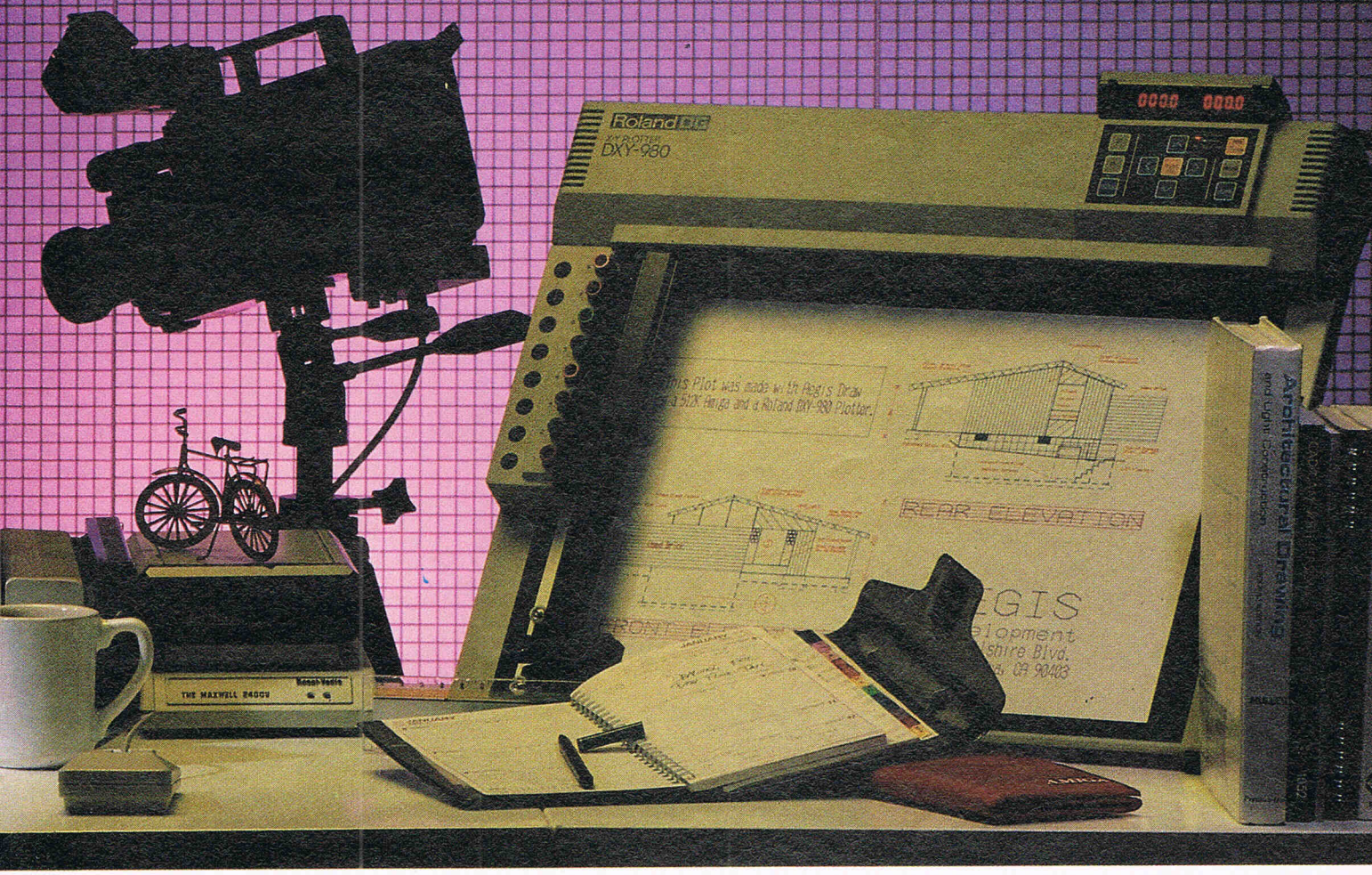
One of our hardest workers! It turns the Amiga into a low cost, powerful CAD workstation. *Draw* can be used in architecture to produce quality blueprints. The multi-layer feature is great for circuit board design, or creating technical plans for parts or sub-assemblies. *Draw* works in theatre for set design, movement mapping, and lighting layout. Use *Draw* for floor plans and "what if" space planning, organizational charts, or flow charts.

Aegis Draw Pro™

Draw Pro is the professional big brother to *Draw*. Packed with additional features found in mini and mainframe CAD programs it can be used to produce very large sophisticated drawings. User definable menus and programability are just part of the key to *Pro Draw's* power. The attributes feature lets you produce a Bill of Materials, or pass data to analysis programs such as a database or spreadsheet. *Pro Draw* also has a Microsoft BASIC™ link for sending data to customized programs you've written youself! Aegis

1985, 1986 Aegis Development, Inc. • Plotter courtesy Roland Corp. • JX-80 Printer courtesy Epson America • Monitor and Camera courtesy Sony Corp. • Digitizer courtesy A² Systems • Hard Disk courtesy Tecmar, In

about the Amiga!



Draw owners can upgrade to *Pro Draw* for a very reasonable cost.

Diga!™

Easy reliable multi-tasking Telecommunications that doesn't take a lot of memory away from your Amiga. *Diga!* is so easy to use, you'll wonder how you ever communicated electronically without it. Multiple terminal emulation, Amiga Binary and X-Modem protocols make *Diga!* reliable. Macros and address cards make *Diga!* powerful. So, the next time someone asks you which communications system you use, say "*Diga!*"

Art Pak#1™

Ready to use clip art from computer master Jim Sachs. *Art Pak* images will work in paint and animation programs, including: Aegis *Images*, Aegis *Animator*, Graphicraft, Deluxe Paint,™ and Deluxe Video Construction Set.™ Don't worry about not having professional skills, *Art Pak* puts years of experience into your paintings with a simple cut and paste! *Art Pak#1* includes prehistoric scenes, city scenes, and animals ready for use.

Art Pak#2™

More ready-to-use art from Aegis artist Tom Nelson. His personal touch will lend a new level of creativity to your paintings and animations. *Art Pak#2* includes trees, plants, nature settings, sports images, and a series of standard "clip art" for use by retailers, businesspeople, and anyone with need of graphic expertise.

Arazok's Tomb™

Arazok's Tomb is a synergy of adventure and graphics. You are an ace reporter with the *Herald Tribune* and renowned investigator into the bizarre. A telegram from your sweetheart, Daphne Delmay leads you on a dangerous quest into the underground world ruled by the late and undead messenger from Hell, Arazok.

"*The nethermost caverns are not for the fathoming of eyes that see, for their marvels are strange and terrific. Cursed the ground where dead thoughts live new and oddly bodied, and evil the mind that is held by no head . . .*" Arazok's Tomb is recommended for adult players.

Aegis Development – The number 1 choice in graphic software.

ÆGIS Development

Santa Monica, California

• Modem courtesy Racal Vadic, Inc.

PUT YOUR AMIGA TO WORK

with

DATAMAT™

FULLY RELATIONAL DATABASE MANAGEMENT SYSTEM.

- **Now with images in IFF format, display with text/data/voice**
- **Quickly build applications without any program coding from simple phone/mailing list to research to organization-wide information management**
- **Self-running tutorials created automatically for personnel training**
- **Integrate with virtually all existing hardware systems Companion software with identical user-interface for MS DOS, XENIX, UNIX, VMS, and others available. Same application fits all hardware**

From $125.00

DATAMAT PARTIAL SPECIFICATIONS

Organization	Fully Menu-driven Relational Database Management System/Application Generator.	Number of data files per data base	Unlimited
Number of characters per field	1,024	Data types	13 includes Image in IFF Format
Number of fields per record	2,000	Global (System) Fields	40 user definable 9 special purpose
Number of characters per record	4,000	Field checks	Mandatory, Type, Initial value, Value within a specified range.
Number of records per file	4.3 billion	Password security	Field and data base levels
Multiple response	Supports multiple responses (up to an array of nine) for a single field.	Calculation capabilities	Full complement of 23 math and trigonometric functions and 13 logical operators. Automatic date and time calculations.
Number of Relations per data file (simultaneous R/W access)	10		

Data Entry - single entry to multiple files and records. **Import/Export** facility with data conversion/reorganization. **Forms Definition** - full screen editor with mini word processor. **Report Generation** - up to 66 lines x 132 columns, 6 level totaling with built in summary. **Sort/Search** - up to 26 selection criteria per query. **Mass Editing, Time Saver Audit** - stores all key strokes used in building application for automatic recreation. **Statistics and Graphics**- stepwise multiple regression, standard statistical tests and analysis; scatter plots, bar charts. Custom Applications Generator - batch/partial batch processing; user-defined menues; self-running demos.

Available through your Amiga dealers. Inquiries Welcome.

Transtime Technologies Corporation

797 Sheridan Drive, Tonawanda, New York 14150: Phone: (716) 874-2010

Datamat is a trademark of Transtime Technologies Corporation
AMIGA is a trademark of Commodore Amiga, Incorporated
MS-DOS & XENIX are trademarks of Microsoft Corporation
UNIX is a trademark of Bell Laboratories
VMS is a trademark of Digital Equipment Corporation

Keyboard Cadet by Mindscape for the Amiga

"Oh no," you say, "how boring. A typical tutor. "Well, in most cases you'd be right but in this case of Keyboard Cadet from Mindscape (the people who wrote Racter) you'd most definitely be wrong.

It is difficult to write an interesting typing tutor. After all, what is exciting about trying to hit the right key and type in sentences in the shortest possible time? However, Mindscape have managed successfully to join a game concept with a typing tutor producing a program that is silly, fun, and very effective. Quite an achievement!

Keyboard Cadet features some neat graphics and sound effects built around a well designed and implemented package. In the training mode, you have to blast down the alpha-numeric characters that are flying towards you at varying velocities, depending on your speed setting. Hit the right key and 'phut!' goes the vicious letter, vanquished forever more. Once you've managed to destroy all the attacking characters, you face the mothership which you'll have to destroy pretty smartish by typing in the letters highlighted on the on-screen keyboard.

As your typing improves, you can increase the skill level to introduce new letters. The letter, or letters you are required to type in flash yellow, and any letters you mistype in your attempts to get the right key are shown in red. The on-screen keyboard also has two hands positioned over it, showing you how you ought to be positioning yours. As you type. so the hands type, eliminating the need to look down at the keyboard.

Once you've succeeded in your valiant efforts to save the galaxy from mass destruction, you can go on to typewriter mode, or word-processor mode. They are identical except that word-processing mode allows you to insert and delete characters, and word-wraps at the end of a line. In typewriter mode, you can't delete, and you have to press return at the end of each line. Obviously they hadn't heard of Tipex! Any incorrect words entered will be displayed in red, and at the end of a paragraph, you can't correct any wrongly spelt words.

This program really does help improve your typing. Unlike other typing programs, Keyboard Cadet is fun and so you don't see using ti as a chore, but rather as a way of passing the time, having a little fun, or maybe even to improve you typing skills! For pen-bound writers everywhere, a delight.

AMIGA HAS MULTI-TASKING, DISCOVERY SOFTWARE USES IT!

FROM NOW ON YOU CAN PRINT OR SAVE ANY SCREEN, FROM ANY PROGRAM, ANY TIME!

GRABBiT takes WYSIWYG* to the limit. With GRABBiT you capture exactly what you see on your screen in an instant, regardless of what other programs you're running. GRABBiT works with all AMIGA video modes, including **"Hold-and-Modify".**It even lets you capture images from animated programs, like the bouncing ball in Boing! What's more, **GRABBiT runs completely in the background** – transparent to your other software. GRABBiT is **always** ready for you to use, even while you're in the middle of another program. As if that's not enough, GRABBiT requires only about 10K of your precious RAM to operate, and it supports dozens of printers. It's not a game, it's not a toy, GRABBiT is truly a productivity power tool for your AMIGA!

We believe powerful software should be easy to use. **GRABBiT is one of the EASIEST programs you'll ever use!** Every GRABBiT operation is triggered by one of the "HotKeys", a set of easy-to-remember key sequences that only take minutes to learn. Each HotKey is generated simply by holding down the "**Control**" and "**Alt**" keys and pressing one of the designated letter keys. What could be easier?

You won't grow old waiting for GRABBiT to finish printing, either. When we say multi-tasking, we mean it. GRABBiT has **a unique TPM (Task Priority Monitor) module** which makes sure your other software can still run even while GRABBiT is printing. The TPM module constantly tracks GRABBiT's printing priority, making sure it is neither too high nor too low, **but always just right!** GRABBiT adds a new dimension to the AMIGA's multi-tasking capability.

GRABBiT supports **dozens of different printers** because it uses the standard Amiga device drivers. Any printer you can choose in "Preferences" is **automatically** supported by GRABBiT. You'll get the most from color printers too, because GRABBiT supports full-color printing. In fact, we have seen amazing color printouts produced by GRABBiT on the Oki-Mate 20, a color printer costing less than $200.00.

Of course, GRABBiT's abilities are not limited **merely** to printing; GRABBiT is equally adept at **saving screen images to disk** – yes, even HAM screens! All GRABBiT disk files are saved in the popular **IFF format**, the emerging graphics standard for AMIGA. You can capture any screen to disk for slide-show presentations or later enhancement with any popular AMIGA graphics editor like AEGIS Images or Deluxe Paint. We even include a specially modified PD utility called "SEE", which allows you to view IFF image files quickly and easily. GRABBiT's disk operations are **lightning fast** because GRABBiT is written in a hybrid of highly optimized C and 68000 Assembler.

Once you start using GRABBiT **you'll want it on every disk**. You can easily install GRABBiT in your system startup-sequence, so it will **always be there when you need it**. With all its features this would be a great package at any price. But we think you'll agree with us that GRABBiT's most outstanding feature is **VALUE!** You get all the power of this sizzling new software for an unbelievably low

$29.95

+ $5 Shipping & Handling

VISA MasterCard

GRABBiT

*WHAT YOU SEE IS WHAT YOU GET

Amiga is a registered trademark of Commodore Business Machines.
Images is a registered trademark of AEGIS Development Corp.
Deluxe Paint is a registered trademark of Electronic Arts.
Oki-Mate 20 is a registered trademark of Okidata of America.

DISCOVERY SOFTWARE

262 South 15th Street
Suite 400
Philadelphia, PA 19102
(215) 546-1533

ANALYZE!
AMIGA Spreadsheet

ANALYZE! is supplied in the shape of a single program disk and a comprehensive manual. The manual was well written, contained an index and avoided the extremes of too little or too much. The program disk I am happy to report is not protected. Regular readers will know my personal views on copy protection, so I was able to produce a backup disk immediately. Installation was also painless thanks to the overall ease of use of the AMIGA and it was not very long before something productive was happening on my machine.

When using a 512k machine you may have *two ANALYZE! worksheets in memory simultaneously,* since ANALYSE! allows you to partition your available memory. This is all very nice for those users who can keep track of what is where on their sheets and for most users two seems to be a sensible limit. For the benefit of the real *power users* a sheet can be sized up to 200k, which is an extremely large spreadsheet indeed.

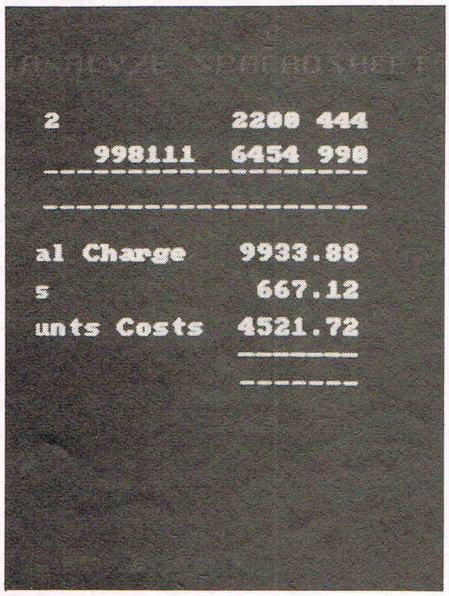
The front-end of ANALYZE! uses the standard AMIGA INTUITION window structure with drop-down menus along with window move and resize. There were no clever tricks or snazzy gadgetry employed, probably in keeping with the solid and respectable requirements of the targetted audience.

The use of the mouse is entirely optional, but it does speed things up when moving around the screen. This is another demonstration of the sensible approach by the program authors of ANALYZE! — there are users out there who just cannot come to terms with a mouse and much prefer the cursor keys.

Regular spreadsheet users will find almost all of their demands catered for. Relative and absolute cut, copy and paste of data and formulae, labelled ranges, headers and footers, localised recalculations using labels, all the necessaries are here providing the food and drink to those users who like to work their machine and spreadsheet software really hard.

Price

It is important to realise that the price of obtaining these spreadsheet functions is considerably less than the likes of LOTUS, SUPERCALC, etc., in addition to which ANALYZE! is considerably easier to use and learn. The functions cover the old standards of spreadsheets such as MIN, MAX, SUM AVG, etc., before moving into dedicated financial and statistical aspects such as present and future values, payments and variance.



One of the more powerful and unusual features of a spreadsheet at this price level being the table lookup functions. I also liked the manner in which time was stored as a serial integer number allowing some useful manipulations to be performed in this direction. Even better was the delight of discovering that this function handles British date style, that is DAY, MONTH, YEAR. Couple these with the purely programming functions in addition to the ability to define orders of recalculation and you have the makings of a very efficient cost-effective tool.

User-defined functions or macros, graphics, three dimensional sheets and sideways printing are not present yet. Note my use of the word *'yet'* since the producer of ANALYZE! has a clearly stated policy of product upgrades to registered purchasers. In fact I felt that the strength of ANALYZE! lay in its tangible solidness as a basis for yet more powerful versions. Considering the newness of the hardware and thus the programmers unfamiliarity with the full range of AMIGA tweeks, the version I ran (v1.2) is a marvel compared to the spreadsheets I have operated before in the 8-bit world. I am happy to buy on the basis that I know the product will be upgraded to use the unique facilities of the AMIGA.

Micro-Systems Software operates a USA-based bulletin board in support of all of their products which is open to those registered users who can afford the phone charges.

Printers

The often ignored sharp end of most application software is the output in terms of printers and files. Dealing with printer support first, ANALYZE! offers two methods of linking to your printer. The first is through the WORKBENCH of the AMIGA using the PREFERENCES tool.

PREFERENCES includes direct support for Centronics or RS-232 interfaced dot-matrix, daisywheel and laser printers. Alternatively, where you do have a printer that is not on PREFERENCES you can by-pass this and send direct commands to the printer. Readers who have older Commodore IEEE printers would be well advised to hold on to them since all is not lost. There will be launched quite soon I hear, a direct connect interface for them.

The printer output will provide headers and footers as well as formulas and borders. The control over the printer extends to line feeds/carriage returns, cell format and margin control, very useful in those tricky situations we have all experienced at some time over printed output from spreadsheets.

The other output that can be produced from ANALYZE! is for disk files. This allows you to save the sheet as an ASCII data file. Image conscious users can then 'massage' the sheet in a word processor to give italics, underlines, etc. The other use for this type of data storage is to provide a route to transmit spreadsheets between the AMIGA and other machines either through direct connection or modem using RS-232. A further example of the inherent long-term usefulness built into the product.

ANALYZE! in its present form makes no claim to being the definitive AMIGA spreadsheet. However, the strength of ANALYZE! lies beneath the surface in terms of its operational speed and overall potential. It is a solid piece (I couldn't get it to crash) and given that the manufacturer will be maintaining the product in terms of improved facilities via upgrades the future of ANALYZE! is very good. It is this last factor that persuades me to purchase ANALYZE! now as opposed to the useful *'something better will be out next week/year'* syndrome.

Contact: *Micro-Systems Software, 4301-18 Oak Circle, Boca Raton, FL 33431, USA. Tel: 305.391.5077.*

UK Distributor:
Precision Software Ltd, 6 Park Terrace, Worcester Park, Surrey KT4 7JZ. Tel: 01-330 7166.

It's easy to complain about advertisements. But which ones?

Every week millions of advertisements appear in print on posters or in the cinema.

Most of them comply with the rules contained in the British Code of Advertising Practice.

But some of them break the rules and warrant your complaints.

If you're not sure about which ones they are, however, drop us a line and we'll send you an abridged copy of the Advertising Code.

Then, if an advertisement bothers you, you'll be justified in bothering us.

The Advertising Standards Authority. If an advertisement is wrong, we're here to put it right.

ASA Ltd, Dept 2 Brook House, Torrington Place, London WC1E 7HN

This space is donated in the interests of high standards of advertising.

C Compilers, Development Tools

Lattice

Roundhill can supply a full range of programming tools for the Amiga. In addition to the Lattice C compiler, which allows direct calling of all Amiga functions, we stock Lattice's 'make' program (LMK), the Lattice Screen Editor (LSE), text processing utilities, file access library (dBC III) and MacLibrary (which helps you to transfer Apple Macintosh applications). The Lattice Amiga C compiler is available to run either on the Amiga itself or for cross-development under MS-DOS.

Other products for Amiga include our PANEL screen manager, Faircom's C-Tree indexed file manager, and the Metascope multi-window symbolic debugger from Metadigm. Roundhill also supplies MS-DOS development tools from Lattice and Phoenix.

Roundhill Computer Systems Limited
Axholme, London Road,
Marlborough, Wiltshire SN8 1LR
(0672) 54675

AC/FORTRAN™

Mainframe quality, full feature **ANSI FORTRAN 77** compiler includes: **Debugger,** Linker, Library Manager, Runtime Library, **IEEE** math, and **C** interface. Supports **Complex** numbers, **Virtual** arrays, **Overlays** and Dynamic Linking. Not copy protected. $295.

Version with support for CSA 68020/68881 board also available.

AC/BASIC™ - Coming Soon

From the authors of **Microsoft BASIC** compiler for Macintosh, comes AC/BASIC for the Amiga. Companion compiler to the **Amiga BASIC** interpreter: has more features and includes a **Debugger,** includes **BLOCK IF, CASE** statement, and **STATIC** keyword extensions and executes up to **50x** faster. AC/BASIC is the new BASIC reference for MC68000 based personal computers. Not copy protected. $295.

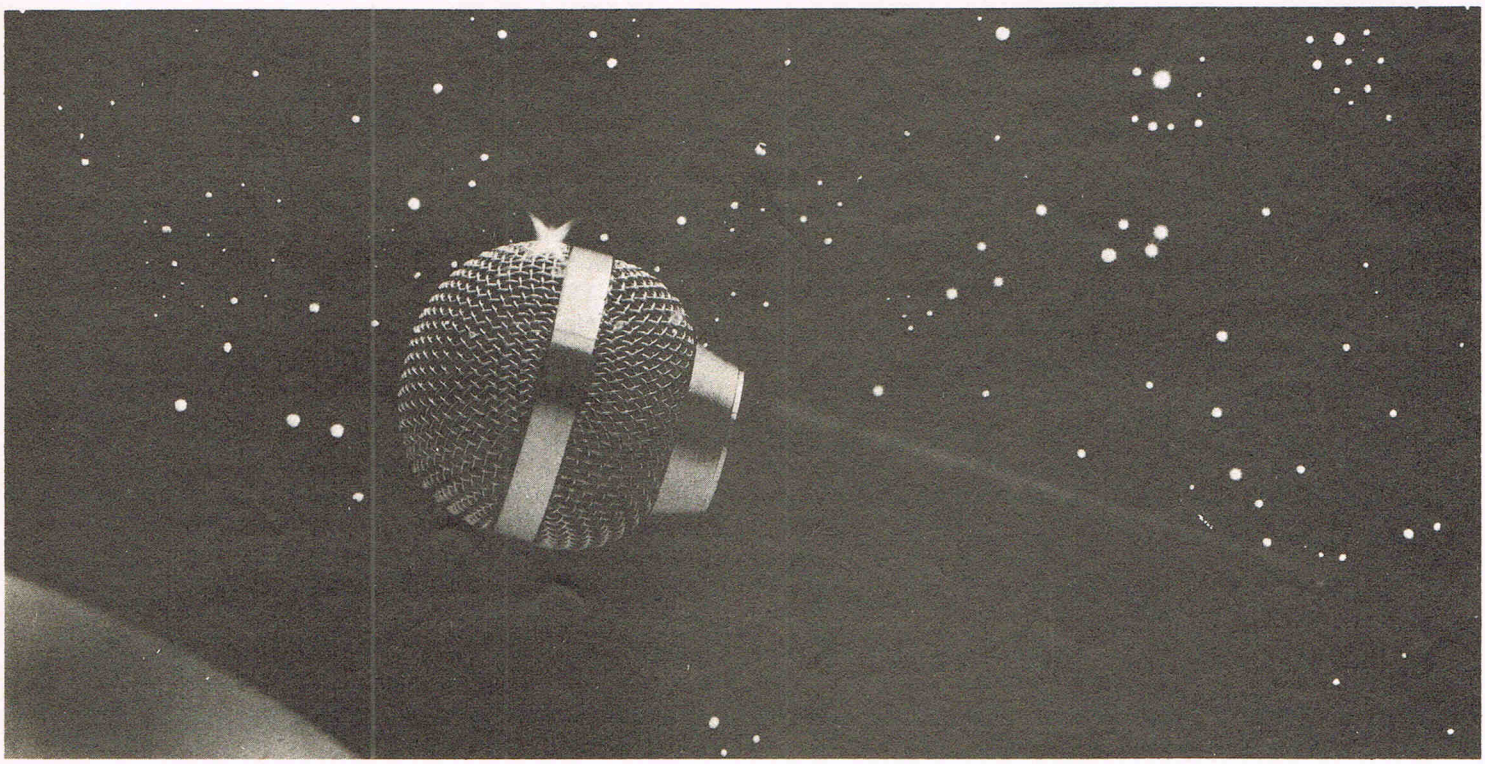
Telephone orders welcome

absoft

Scientific/Engineering Software

4268 N. Woodward, Royal Oak, Michigan 48072, USA
(313) 549-7111. Telex: 235608

Amiga trademark of Commodore/Amiga. Microsoft trademark of Microsoft Corp.



Now do something really amazing with your Amiga...

FutureSound™

...*Record!*

At last you can take full advantage of the sound capabilities of your Amiga. Applied Visions announces **FutureSound**, a digital sound recorder for the Amiga personal computer. With **FutureSound**, anyone can create the spectacular sound effects that make your Amiga stand out from other microcomputers. **FutureSound** allows you to record *any* sound, *any* musical instrument, *any* voice, and use these recordings to add instruments to music packages, create realistic sound effects for your programs or add true voices to your applications. Multitrack recording and editing is provided as well as stereo playback. Sounds can be easily accessed from "C" or BASIC. **FutureSound** comes complete with recorder, cables, microphone and software—all for only $175. Available from your Amiga dealer or directly from us. Order now and find out just how creative you and your Amiga can be!

APPLIED VISIONS

Applied Visions, 15 Oak Ridge Road, Medford, MA 02155 (617) 488-3602

AMIGA™ FOR SALE

£1,000!

H & P have specially imported a limited quantity of new Commodore AMIGA computers from the U.S.A.

The H & P AMIGA has 256k memory with the original AMIGA Colour Monitor; Single Drive; U.K. Power Supply and includes all normal documentation and software. **ONLY** £1,000 (plus VAT). Amazing Value!

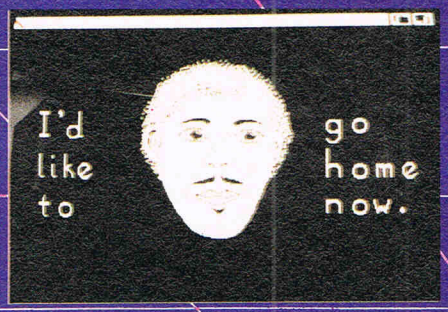
URGENT! Act quickly as this is a limited offer!

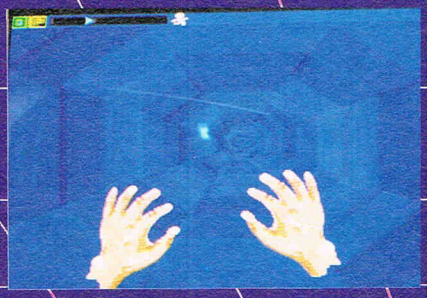
(Mail Order Only)
H & P Computers
9 Hornbeamwalk, Witham, Essex CM8 2SZ
Telephone: 0376 511471

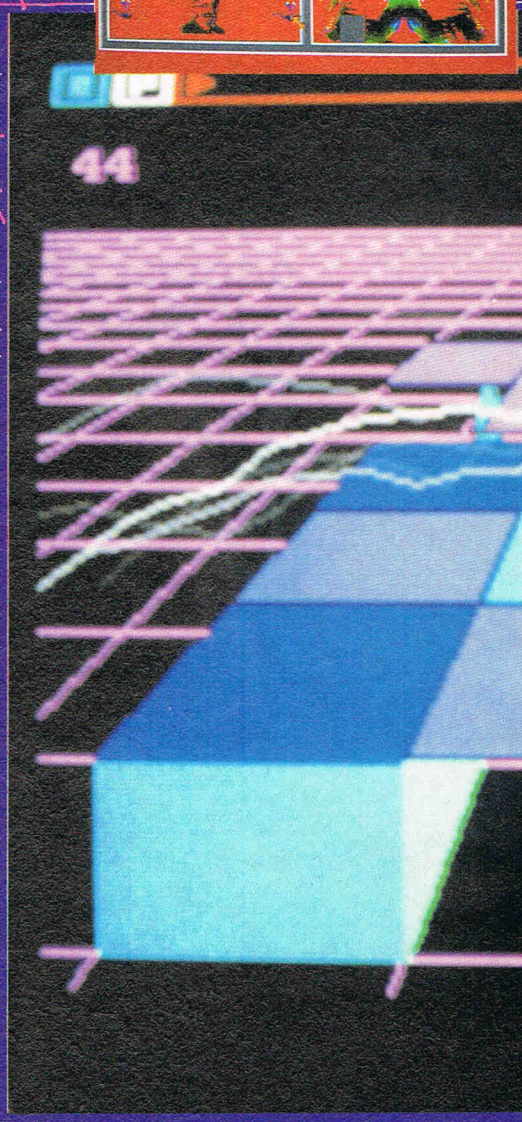
H&P COMPUTERS

Copyright and registered trademark H&P computers
Wolphaertsbocht 236, 3083 MV, Rotterdam, Netherlands. Tel: 01031-10231982 Telex 26401 a intx nl

I want to go home







MindWalker, formerly known as WyndWalker whilst under development, has the privilege of being the only game that Commodore will be marketing for the Amiga. What is it that makes this game so special?

When it was still under development, many people obtained, by various, mostly illegal means, unfinished versions of the game. Of course, as these were not 'official' copies, the 'players' didn't have a clue how to play the game. So for months WyndWalker circulated the developers' circle, with people saying how incredible it was, how it was spectacular, possibly the best graphics ever, but what the hell were the rules! Recently I had a meeting with John Collins one of the elite of the Commodore world hence a possessor of much arcane knowledge. He very kindly explained to me what the game was, and how to play it. I must say that the mystique that surrounded the game before I knew what it was all about still surrounds it now. When I got home, I promptly sat down, booted up MindWalker, and played it through to about 5 am, when I eventually, I say with not a little pride finished it. Not many games can hold my attention for so long, and neither do they have the addictive power that MindWalker possess.

The name very aptly describes that game. Stuck in a mental hospital, you are trying to regain your sanity through your dreams, walking the realms of your mind in its deluded insanity; trying to link up paths of coherent thought; a situation not unlike working on a magazine! To establish a link, you must journey from a crystal to your goal, displayed on the map screen as a flashing square; linking them with a path as you travel. This is where the game starts to get complicated. In your mind, you can take the form of one of several different characters ranging from human to wizard. Your mind is also subdivided into many areas of random size and shape. Each one of these areas is 'biased' towards one of the character types, and to make a path through a purple area for example, you must be a wizard, whose character colour code is purple. To change your character you need to stand under a pyramid where you will be transformed into each type in turn. When you finally turn into your desired form, simply move out from under the pyramid.

If you are unfortunate enough to have to cross another character's boundary, then your path will be halted. You will have to find the nearest pyramid, transform yourself into the required type, and return to where you left off.

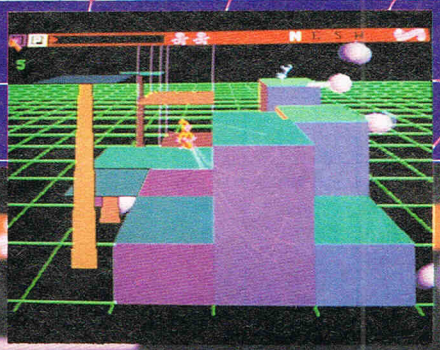
To see your current position, you can call up a map screen. This will, on command, show the location of crystals, pyramids, goals, and which areas may be pathed across by which characters. The path you have so far succeeded in creating is displayed as a yellow line.

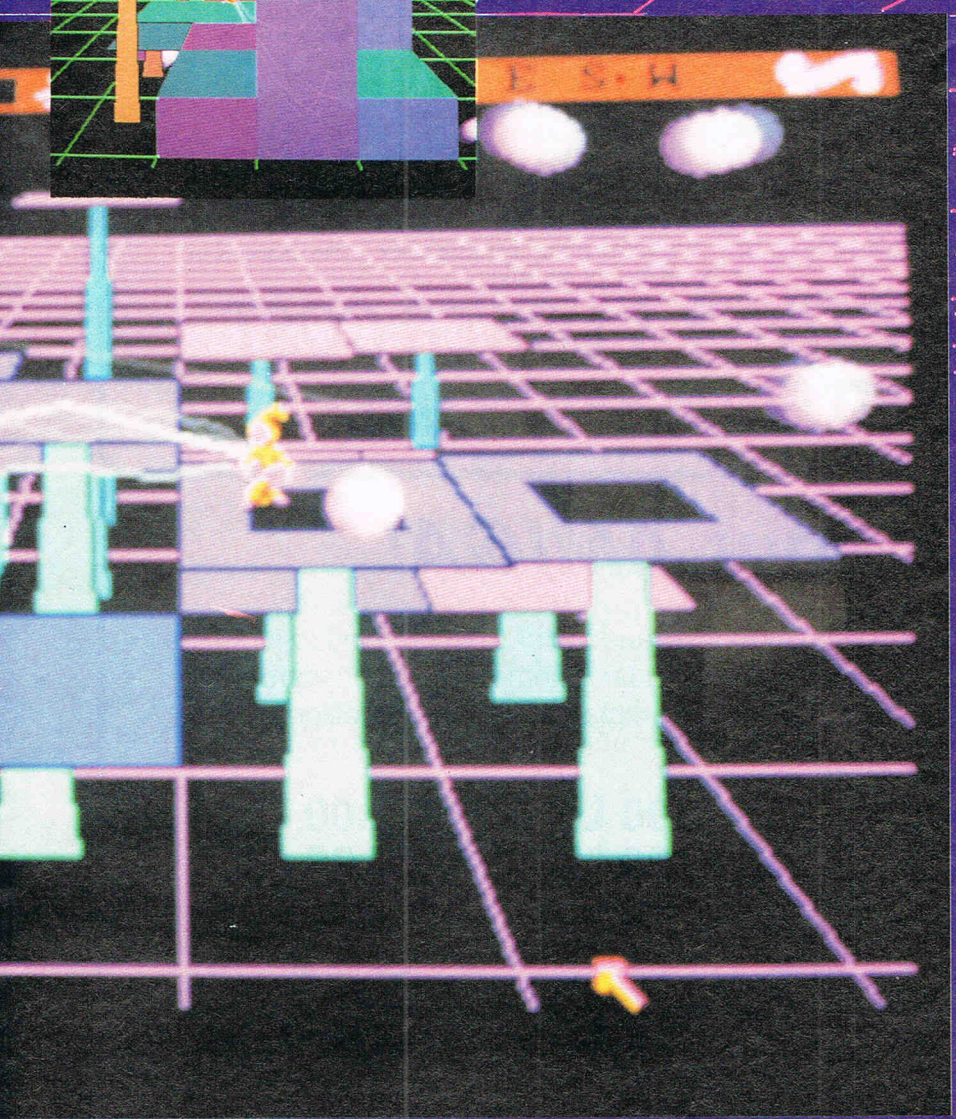
e now.

There has to be a catch to all this doesn't there? I mean, this sounds too easy! Well, there is, and in later levels the nasties inhabiting your mind operate at incredible speeds making completion very very difficult. Stay too long in one place, and you'll be zapped by a beam of death. Actually, its worth getting killed a few times just to see the display of the skull in its multitude of different colours being drawn.

I can't recall another game that uses colour to such good effect as MindWalker does. The spheres which attack you are beautifully shaded (don't watch them too long!) and the barren landscape of cubes upon which you stand wonderfully coloured in pastels.

The sound and sound-effects in this game are truly stunning, especially if you are lucky enough to be able to shove the output through a good amplifier, and then into a really decent pair of headphones. If you are using a set of those mini-speakers that are widely connected to the AMIGA, then beware! I blew mine up with this game! The raw, deep bass sound when you get killed is so strong, especially with a lot of bass if you're going through an amp, that the speakers may just go phut! Just don't have the volume up to high...





There are also three other screens in the game. The second has you plummeting down a tube, hand spread out in front of you, trying to manouver yourself into the entrance of one of the green tubes that flash past you. The third is very ordinary, and could almost be done on a 64.

The fourth is quite interesting. On the bottom right you have a 7 x 7 area. At the top left you have seven pieces of 49 (7x7) piece moving puzzle. Each time you reach this screen, you've got to place each one of these pieces in the correct position, and you have to get there seven times to complete the game! For the first three times, you'll probably need a little assistance. If you can't work out the proper position of a piece, you can get the program to place it for you. However, by asking for help, you lose a 1000 points from your bonus.

This truly is one wierd game. It is incredibly hard to stop playing, because although initially it seems simple, it is in fact highly complex and requires a lot of strategy. I haven't been told the UK price yet, and I wouldn't like to hazard a guess, but whatever it is, buy this game. This product lives up to Electronic Art's desire for "Computer programs that are works of art", even though it wasn't written by them. It really is state-of-the-art in computer games.

By the way, the first time I managed to complete the game, I scored a self development bonus, from which points are deducted for help, of 32,000 points. See what you can do, and write in with your scores (no calls, please!)

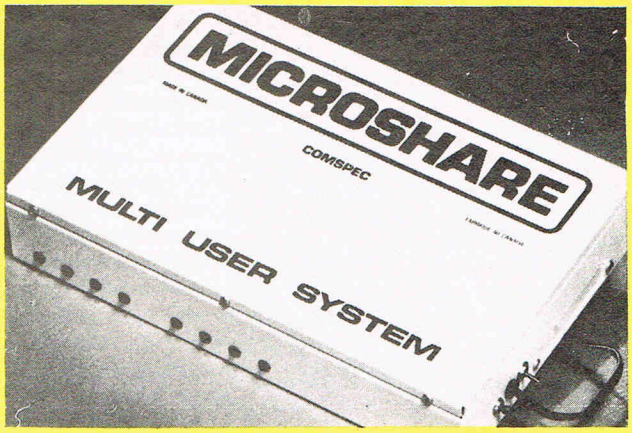
At the end of MindWalker, you have, if you complete the game, regained your sanity. That may be true in games terms but what you really will have done is visited a new dimension in home entertainment; enjoyed a state of the art experience.

Julian Rosen

MindWalker — A State of the Art Experience

MICROSHARE

IBM PC AND COMMODORE PC-10 COMPATIBLE



MCS 8000 — MULTI USER PRINTER NETWORK

★ ALLOWS EIGHT USERS TO SHARE ONE PRINTER — Thus reducing the number of required printers, and utilising resources more efficiently.
★ WILL WORK WITH ANY COMPUTER — Will work with any combination of computers that use standard centronics parallel output (although connectors may vary).
★ BUILT IN 64K OR 256K PRINT BUFFER — Users can dump printing to the buffer, and then continue on to other work, thus increasing productivity.
★ BUILT IN SELF DIAGNOSIS AND ERROR DETECTION LED'S — Warns users of potential trouble, and allows the user to take quick action.
★ TOP OF FORM FEATURE — At the completion of printing, for any user, a 'top of form' can be optionally forced to separate their print-out from others.
★ DESPOOL FEATURE — Enables the person who is currently using the printer to cancel their output, without affecting the other users.
★ SOFTWARE TRANSPARENT — Works with virtually all software.
★ DOES NOT TAKE UP A SLOT IN PC COMPUTERS — Uses existing parallel port.
★ DOES NOT USE HOST MEMORY — No changes to the computer are required.

GREATER PRODUCTIVITY & LOWER COST FOR BUSINESS AND EDUCATION USE!

2 MEGS for your *AMIGA!*

A must for software developers.
Allows more programs to run simultaneously and faster. Can be used to increase system RAM and/or as a FAST RAM DRIVE. Uses standard memory bus architecture to allow for future compatibility. Allows full use of memory expansion port for additional peripherals.

AX2000 2 MEG RAM Board $899.00 U.S ($1276.00 CDN)
AX1000 1 MEG RAM Board $729.00 U.S ($1035.00 CDN)

Complete in case, nothing else to buy! 1 year manufacturer warranty!

DEALER ENQUIRIES INVITED

DISTRIBUTED IN UK BY PRECISION SOFTWARE

MADE IN CANADA
FABRIQUÉ AU CANADA

COMSPEC COMPUTERS • COMMUNICATIONS • SERVICE

153 Bridgeland Ave., Unit 5, Toronto, Ontario M6A 2Y6. (416) 787-0617

RAM BOARD *by* Comspec

Surely not? . . . the AMIGA has 512K of RAM — what is the point of buying yet more RAM I hear you cry?. To understand the answer to this question demandsa little knowledge of the architecture of the AMIGA. There are several *types* of RAM inside the AMIGA, these are:

CHIP
FAST
WRITE-PROTECT

Write-Protect RAM is a 256k area in which the operating system software is placed after loading in from the 'KICK-START' disk. It is then locked away from the user by means of sophisticated hardware switching to prevent unauthorised tampering and the consequential loss of system security necessary in a multi-tasking environment. In effect this RAM becomes ROM and we need no longer be concerned with this RAM any further in the context of this review.

Chip RAM is the lower 512k of the system address range and forms the RAM that is supplied installed on the machine as bought in the UK. The 68000 in the AMIGA can address 16.0MBytes which leaves a potential of 15.5MBytes for expansion. (Note that this is direct addressing by the 68000 — this processor does not use segmented addressing as found in the Intel 8086 family.) Unfortunately, this is not the case since we have to allow for the operating system software, and input/output circuits which are always memory-mapped on a 68000 system. The maximum expansion of RAM that Commodore-AMIGA recommend is 8.0MBytes — the principle reason for this limit relates more to power in the system. The special circuits within the AMIGA, namely AGNUS, DENISE and PAULA can only access this lower 512k RAM which in effect forms the *video RAM.*

Fast RAM forms the 8.0MByte expansion and receives it's name from a property of the special circuits. This property ensures that under certain conditions the special circuits can hold the 68000 processor off the address bus whilst they continue their task. For example, the much vaunted Blitter can finish off a screen area fill at the expense of the 68000 hence one of the reasons for the very fast graphic abilities of the AMIGA. Obviously the system software needs a high degree of robustness and intelligence to arrive at and maintain such arbitration between the hardware and the system busses. The 68000 cannot be pushed off the address bus on this RAM simply because there is nothing there to do it. This makes any access to this RAM potentially faster than *chip RAM* therefore the name *fast RAM* was coined.

The **COMSPEC RAM EXPANSION** is supplied in the form of a well constructed pcb containing 2.0MBytes of RAM. When fitted to a UK-specification AMIGA the total system RAM becomes 2.62MBytes. The pcb is enclosed in a substantial metal case painted in a matching colour to the system box. The unit's overall dimensions are approximately 9 by 4 by 2 inches thus it does not represent a visual threat and fits in agreeably with the AMIGA environment. Installation takes less than a minute — consisting of removing the expansion port cover on the right of the system box, refitting this cover to the expansion port that is duplicated on the side of the RAM EXPANSION box and then plugging in the RAM EXPANSION to the main unit. I was both pleased and releved to note that I had not lost the expansion port. Obviously the only 'skill' needed is care when fitting the unit to the expansion port. **I was particularly impressed with the high standard of workmanship in this unit.** I happen to be one of the rare animals — that is a reviewer who actually takes the lid off the hardware under review. My impression of quality was reinforced by the manufacturer's use of rubber buffers to space the unit from the system box and more importantly use buffers on the underside to support the unit properly rather than rely on the main pcb of the AMIGA to perform this function, unlike some assemblies I have seen recently.

Further RAM expansion is simply plugged into the side of the first unit although it is advisable to provide for additional power beyond the second unit — 2MByte units on NMOS circuitry are hungry. No documentation was supplied with the unit other than the warranty card. The documentation is supplied on the system disk which contains a simple file describing the installation of an additional program into the C (command) directory and amending the startup-sequence file (AUTOEXE.BAT in MS-DOS terminology) on the user's Workbench disk. Once this had been done the system fired up and proceeds to test the RAM and notify the user that all is well. This process takes less than 10 seconds. The product uses the *'Auto-Config'* architecture of the AMIGA. This means that unlike IBM-PC and its clones, the fitment of additional peripherals to the expansion port does not mean the user having to go inside the machine and mess around setting DIP switches. *Auto-Config* recognises exactly what is on the external bus and takes care of it in terms of the location of the peripheral within the processor address range.

At first, I could not detect any difference on my Workbench display to indicate the presence of the additional RAM. Then looking at the menu bar with the rolling count of free memory I noticed the figure 2499208 rather than the usual 401920. I must confess that at first I misread this thinking that I had lost RAM until I realised that an additional digit was present — oh well, it has been an extremely hot July! I then proceeded to the AmigaDOS level to start my exploration of the uses of the vast increase in capacity.

At the DOS level the main use tended to be as a RAM disk since AmigaDOS directly supports this facility. This is of immediate and substantial benefit to software development since it allows the user to copy the compiler AND system disks into RAM. There is even sufficient left over from this exercise for very nearly a further FULL disk to be loaded in. The advantage given here is a *considerable reduction on compile cycles* even using the leisurely Lattice C compiler since the need for disk access is negated. Readers who are unfamiliar with AmigaDOS may note that it supports a full hierarchial directory structure and is closer to UNIX than MS-DOS in facilities and available commands.

cont . . . .

cont ....

For end-users the benefits of additional RAM becomes immediate after copying the Workbench or system disk into it. This allows the use of the internal drive (df0:) for other purposes — of particular value when so many applications make heavy use of the routines on the Workbench disk. Not least is the enormous increase in overall system operating speed since everything is now held in memory, although it has to be said that when used correctly (a note for some reviewers who fail to comprehend them) the AMIGA disk drives are both fast and reliable. You may now keep all of your program and data files in *fast RAM* rather than video or *chip RAM*. This has the benefit of leaving the latter completely at the disposal of video or audio data for manipulation by the special circuits. Therefore tasks run faster and have a greater amount of memory available to them. Of particular interest with this effect is the forthcoming AMIGA SUPERBASE which makes great use of the machine's memory to hold as much as possible of the user's immediate data requirements such as disk directories and key index parameters.

I was greatly impressed with the COMSPEC product and really begin to wonder what life was like on a mere half megabyte of memory! It has certainly paid for itself in terms of the increase possible in my personal productivity. The AMIGA is not short of RAM in the conventional sense of the word — certain applications such as animation will, however, run it close to the limit. On the other hand RAM represents the consciousness of the machine and rather like a car engine there is no direct substitute for capacity.

I am more than happy to recommend this product — additional RAM for the AMIGA should be the number one priority for any buyer whether software developer or end-user. This not only turns a powerful machine into a force to be reckoned with, but allows the true *power-user* full reign. Through personal choice and now experience I'm glad that I made this decision rather than go for the hard disk units. Admittedly they are next on the shopping list after the open-heart surgery of replacing the 68000 with a 68010 processor, but that's another story!

2MB RAM Expansion Supplier:-
Comspec Communications Inc 153 Bridgeland Avenue. Unit 5 Toronto Ontario M6A 2Y6 CANADA tel 416.787.0617

UK Distributor:-
Precision Software Ltd. 6 Park Terrace Worcester Park SURREY KT4-7JZ. tel 01.330.7166

Books

PRESENTING THE AMIGA

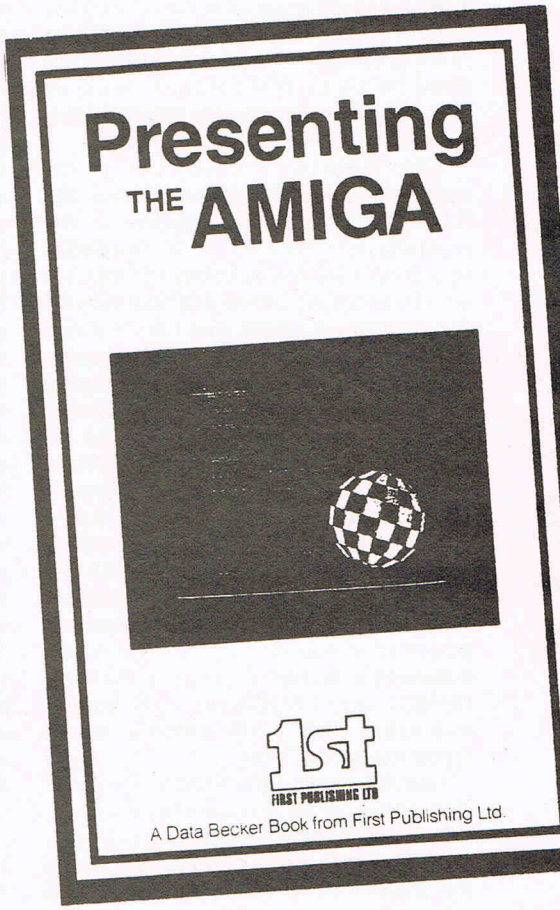
CHRISTIAN SPANIK

FIRST PUBLISHING LTD £9.95

It had arrived! At last my Amiga had been delivered. Boxes were flying everywhere, there were bits of polystyrene packing all over the floor. Even the wife was excited. I'd unpacked it within seconds. Now what? Well, luckily for me I had received a copy of "Presenting the Amiga" only a couple of days before my new 'toy' had arrived. The author, Christian Spanik, had obviously gone through the same 'got to get it going' phase I was going through and was therefore able to give some advice on what problems I was likely to encounter. The book falls into five main parts. The first part is the 'How to unpack, plug it all together and switch on' section. The second section is probably one of the most important parts of the book. It explains the AMIGA/WIMP concept. This it achieves with a 'Now press button B' type talk through. This type of approach can quite often lead to a long, drawn out session but Christian's light-hearted manner (not too American) proved quite entertaining. Section three covers Basic. It is not intended as a complete course in Basic but as a quick guide round to show you how to get at some of those lovely frills and spills. Section four - AmigaDOS. If I buy a computer with a disc drive, I expect to be given the information I need to operate it. This is one place where I feel Commodore has let the side down again. They provide little, if any, information on AmigaDOS (Amiga Disc Operating System). I asked Commodore why they did not include a AmigaDOS manual only to be told that the Amiga is a WIMP environment machine, Goodbye. "Presenting the Amiga", however, does give you a peek at the DOS and probably saved me from jumping off the roof. The final section comprises of the appendices or "Things you don't keep in your head" to quote Christian.

All things considered, this is an ideal starter book for the Amiga. It is lighthearted and easy to read. It has the feel of a book written by someone who has actually experienced the very same problems and pitfalls as I have. However, if anything lets the book down it is the index. I would have much preferred to have seen the more regular type as opposed to Christian's KEYWORD index. That comprises of about 100 keywords which then refer to hard to locate chapters. Still, nobody's perfect (the editor excluded).

Ian Bennett

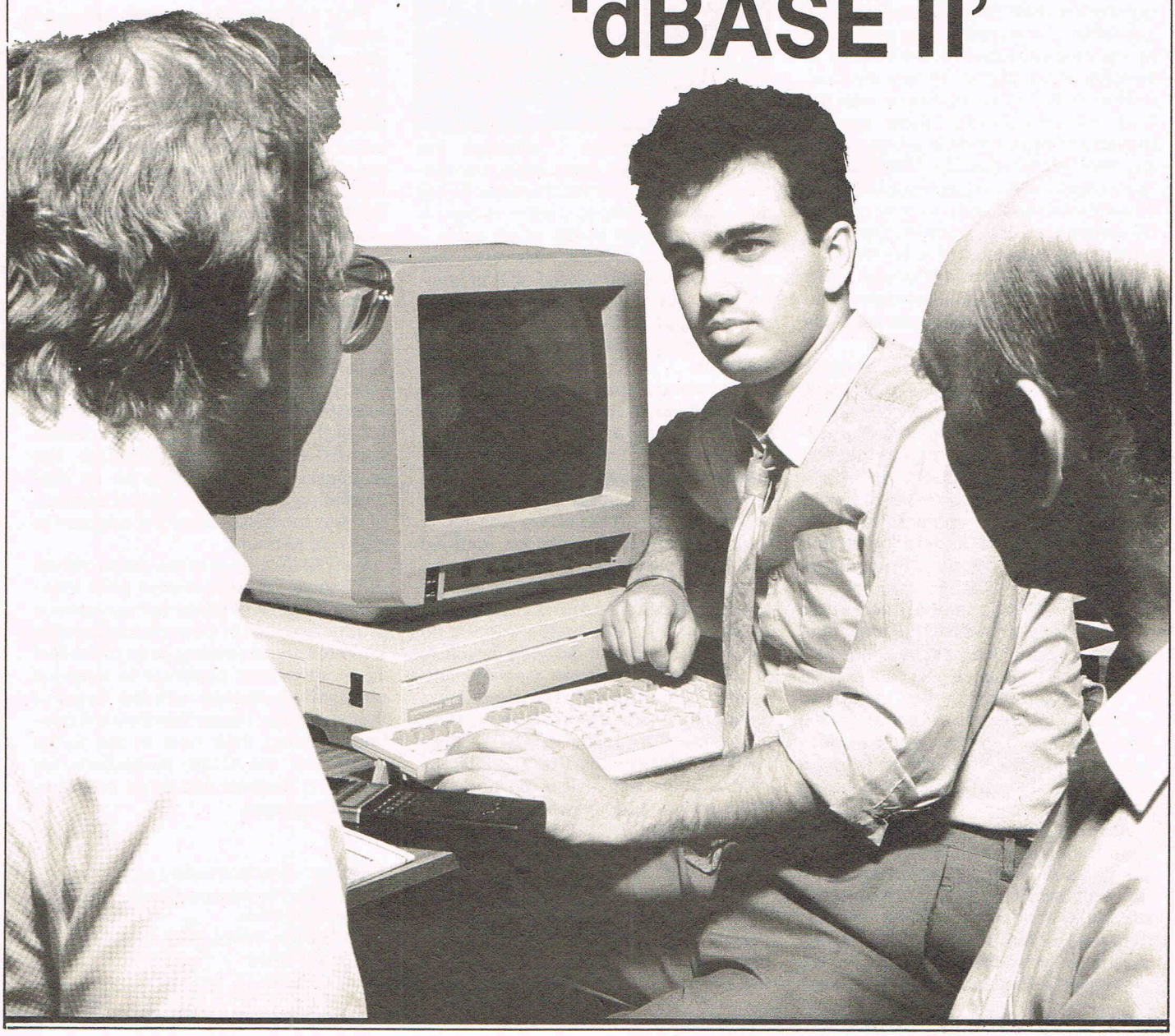


Commodore 128D 'dBASE II'

At long last I've managed to get my hands on dBASE II for my C128D. After word processing I have always retained a keen interest in database products and been a strong advocate of SUPERBASE, so why dBASE II? Well, SUPERBASE is almost certainly the leader in the Commodore world for databases. However, SUPERBASE is based on the 6502 processor and this limits its usefulness in two ways. First, 6502 machines never achieved a 'standard' operating system which reduced the number of machines that SUPERBASE could run on. Secondly and in complete contrast, the Z80 and its prodecessors, the 8080/8085 processors, have an established operating system in the shape of CP/M. The number of different machines that can run CP/M means a much wider user base and given the current revival of CP/M some of the 'golden oldies' of the CP/M era are being dusted down and re-issued; the venerable dBASE II being one of them.

A lot of people who are not personal computer users or owners tend to assume that computers are only good for numeric applications. They fail to appreciate the ability of computers to serve as organisers of data and this data does not have be numerically derived. Every single human activity involves a need for organisation - we all have those scraps of papers, numerous pens and pencils, paper clips, cuttings and those sticky pieces of yellow notepaper strewn around our home and workplace. A database management system (DBMS) aids the organisation of our business affairs and personal life.

There are database programs that are simply based on a record card-index structure - these are termed flat file systems. They are restricted in the form and number of entries that can be made and how the entry contents i.e. your data can be manipulated. More powerful database programs are not restricted - the power is a direct function of the lack of such restrictions - and the form of data entry can be designed by the user. Data is entered into *fields* or data parameters, *fields* collectively form a *record* and a number of *records* is termed a *file*. A system of *files* forms a part of a *database* and a large database can mean many *files* being held in it. Once the data has been entered, it can then be manipulated in any number of ways such as using the function of time and dates, direct comparisons or mathematical manipulation, numerical or alphabetic sorting and indexing. The ultimate database programs allow the data in a *field,*



record, file or *database* to be 'related' in the above ways to data held in other databases running under the same software. These are termed *relational databases.*

dBASE II is a *relational database*, unlike SUPERBASE which has a limited form of this function. But that raises the questions of why buy dBASE II rather than SUPERBASE? The answer lies in the three potential types of purchaser. The first type is likely to have a SUPERBASE system already installed and be a knowledgeable user who has amassed a large collection of data or alternatively enjoys programming. The second type is the *'solution-required'* user who needs a specific application to fit in with an intended area of operation, generally a commercial application such as a mailing list. The third type may be using dBASE II at work or on aother make of machine and wishes to dBASE II data disks in the C128 or C128D. Because dBASE II have evolved under the CP/M regime, the volume of users is that much greater than SUPERBASE and it is more *'portable'*. Consequently the number of applications available for purchase or existing in the public domain are considerable. But don't run away with the idea that such applications can be picked up from your local dealer, generally they can't. These applications tend to be based on American accounting or commercial practices and may need to be adapting. Also, there is the time-consuming business of scanning bulletin boards or searching through many pages of CP/M public domain catalogues, deciphering what you are likely to need.

The other option open is to program dBASE II yourself and this is probably the reason why the product is worth buying if you are an existing SUPERBASE user. There is a vertiable industry revolving around this aspect of dBASE II with a considerable number of books available, training courses and just general weight of knowledge about. There has to be a support infrastructure of sorts since dBASE II is not for beginners - the price alone ensures that.

The *'front-end'* of dBASE II must rank it amongst the leaders of unfriendly software, all that appears as your prompt is a single fullstop - no menu, no numbers just a very blank screen with a dot! This where the computer novices move stage left and scuttle back to the more friendly world of 6502 based software.

At this point, having sorted the men from the boys, pressing the HELP key brings up an extensive selection of on-line help facilities. You quickly realise from the ponderous manual and the help screen that this product is pretty extensive its facilities. For example the files may be made in a variety of types for processing under CP/M or other applications such wordprocessors and spreadsheets. dBASE II has developed considerably in this direction and it appears unlikely that the restrictions that Commodore DOS imposes over sequential, relative and program file interchanges affects CP/M.

Defining the record structure in dBASE II is very structured and easy once you have come to terms with the lack of full screen editing - this is CP/M after all! The record screens may be customised using the limited range of graphic characters available to the C128 or C128D running on CP/M. It is the programming language of dBASE II that makes this product so effective in many applications. This language does not use the platform of BASIC to work from because BASIC is regarded as an optional extra on CP/M machines - although the dBASE language does draw on elements of BASIC for its character string manipulations amongst other things. It is really a hotch-potch of all sorts - PASCAL and COBOL are two that spring to mind, but above all it is intelligeable. I found no difficulty at all at just ploughing in, particularly since there is a very useful program debug facility available.

C128D

MORE ON THIS BUSINESS MACHINE NEXT ISSUE

The primary strength of programming dBASE II lies in the range of functions available. They are comprehensive to say the least. The facilities for data indexing is exhaustive and it seems unlikely that a good programmer is going to come unstuck on this topic. Command macros may be defined which cut down considerably the amount of processing time whilst using the *set* commands can save the user lots of time on data entry procedures. There is an entry point to the underlying structure of the machine through machine language calls which may be passed bidirectionally. This raises the interesting possibility of a musical dBASE II using the 6581 SID circuit on the C128! Skilled programmers will realise the potential that machine code interfacing offers in the context of the C128 itself, a particularly innovative vehicle for machine code work.

The manual supplied with dBASE II is comprehensive and runs to over 275 pages. Note that it is the full-blown manual as published by Ashton-Tate, the progenators of dBASE II and not some watered-down effort. An additional page serves to cover any idiosyncracies of the C128, C128D and the various Commodore drives. First Software Ltd, the suppliers of dBASE II are at pains to point out that the 1541 is not an ideal vehicle for this product - it is slow and limited in storage capacity. Indeed if you were going to use the portability aspects of the product then the 1571 drive represents the wisest choice. This will allow the reading in of dBASE II files from elsewhere,unfortunately I've been waiting for some time for Commodore to provide me with the DR CP/M Utilities Disk and the enhanced version of CP/M PLUS (the 8th December 1985 version) which allows reading and writing of MFM disk formats and modem facilities. If you application does run to large volumes then the BRAINBOXES IEEE interface operates with CP/M on the C128 thus allowing you to access such drives as the 4040, 8250 or SFD1001, although at the expense of disk portability to other machines.

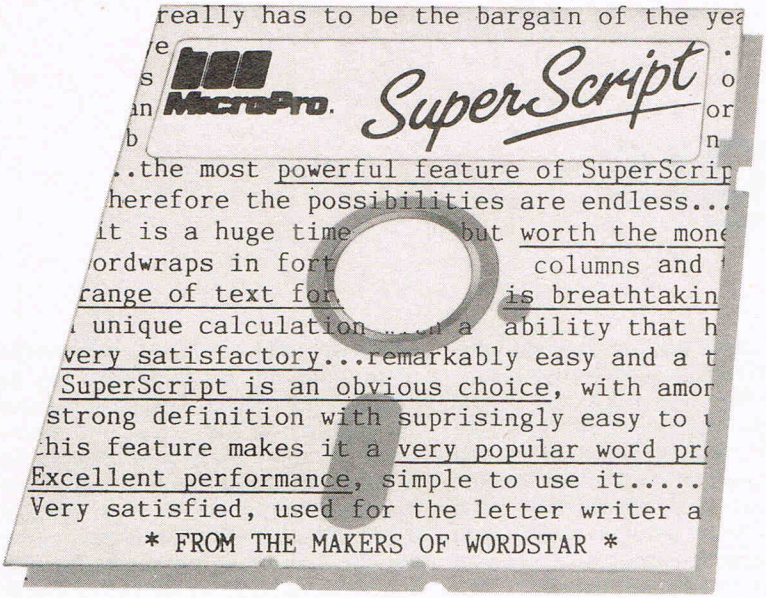
First Software also provide an application template disk with the system disk with plenty of programming examples. There are also a couple of dBASE II utilities for sorting and file editing although the manual makes mention of some further utilities. Presumably these are missing because of disk capacity or basic incompatibility of the C128 - CP/M does not always fit exactly on any machine. A technical support scheme is also available for additional cost. The offer of a reduced price on one of First Publishing's book (a sister company) on dBASE II is certainly worth taking.

In summary dBASE II is well worth considering if you are a *power-user* or need portability. Maybe not for beginners to DBMS although I didn't find it as fearful as it has been made out in certain reports I have read. Although the emphasis on dBASE II is on its programming abilities, we liked it because of these facilities - a worthy addition to software armoury.

First Software Ltd in the shape of First Publishing Ltd have always been innovators in terms of bringing fresh serious products to the UK Commodore market. Despite a hiatus during parts of the last 12 months they continue to keep us pleasantly surprised with the range of their activities. I hope that they will continue casting their nets in the CP/M waters for the C128, particularly for dBASE II material and other programming languages.

Supplier: *First Software Ltd.*
Unit 20B - Horseshoe Road
Horseshoe Park
Pangbourne Berks. RG8 7SW.
Tel 07357 5244
Price *£119.00*

WORDAHOLIC


really has to be the bargain of the yea
MicroPro. SuperScript
..the most powerful feature of SuperScrip
herefore the possibilities are endless...
it is a huge time but worth the mone
ordwraps in fort columns and
range of text for is breathtakin
unique calculation ability that h
very satisfactory...remarkably easy and a t
SuperScript is an obvious choice, with amor
strong definition with suprisingly easy to
his feature makes it a very popular word pr
Excellent performance, simple to use it.....
Very satisfied, used for the letter writer a
* FROM THE MAKERS OF WORDSTAR *

SUPERSCRIPT
WORDPROCESSING
From the makers of WORDSTAR

Most wordprocessing packages will do the bare minimum. SuperScript can't wait to do the lot!

JUST LOOK AT THIS WORKLOAD

Takes on	writing, storing and editing all your correspondence and other documents.
And	produces letters, invoices, price lists, contracts, labels etc.
Next	runs personalised mailings with lists or database output.
Then	creates and revises top quality presentations reports and tables.
On to	typing term papers, technical reports or notes.
And even	adds, subtracts, multiplies, divides and does percentages.
At the same time	giving all round editing and printing facilities such as block-cut-paste, insert and typeover, full search and replace.
Not to mention	print review, layout options and simplified document selection. And much, much more!

*** SPECIAL MAIL ORDER PRICES ***
COMMODORE 64, ATARI 800XL/130XE £49.95
COMMODORE 128, APPLE IIc/IIe £79.95
UPGRADE FROM EASYSCRIPT £39.95

SuperScript comes complete with Comprehensive User Manual.

ORDER NOW

By calling MicroPro on 01-879 1122 Ext 210
quoting your Access or Visa no.

Also available from all good dealers.

MicroPro.

UPGRADE FROM EASYSCRIPT TO SUPERSCRIPT – JUST £39.95

* Improved performance *
* Maths *
* Spelling checker *
* Print or view *
* Integrate with SuperBase *
(on Commodore 128)

To Dept CB1 MicroPro International Ltd, Haygarth House, 28-31 High Street, Wimbledon Village, London SW19 5BY
Please supply the following: (All prices include VAT & Postage) QTY ____ SuperScript package(s), for computer (state model)
Commodore 64, Atari 800XL/130XE £49.95; Commodore 128, Apple IIc/IIe £79.95
QTY ____ † Upgrade for Easy Script £39.95 for computer (state model)
† (Your existing Easy Script disk should be returned with this order)
I enclose remittance for £ ____ (Cheques made payable to MicroPro International Ltd).
Or charge my credit card
Access/Visa No.
Signature
Name
Address
Postcode
Tel

IMAGES

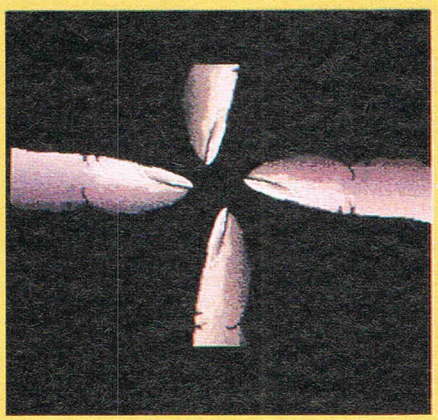
by Aegis

Aegis IMAGES is a creative paint/draw package which starts to reveal the true graphics strength of the AMIGA. I have spent a great deal of time exploring and using IMAGES and my efforts have been both creatively rewarding as well as pleasurable in the extreme. IMAGES, whilst not turning me into a Renoir has certainly taught me a great deal about texture and the implications of colour. Considering that my personal background is essentially applied science and with no art training or quite candidly little interest, I now have few qualms about tackling a project with IMAGES.

I created some of the pictures in this issue using IMAGES. It must say a lot if I have the confidence to expose my efforts in this field in such a public manner! So what was it about IMAGES that caused me to take up the mouse and start 'painting'? One word — *speed*. The ability to accept and translate your ideas quickly upon the screen before they disappeared from your mind — the ability to modify large ares of the screen without taking minutes of your time — the ability to undo the last command — all of these contributed in making IMAGES not so much a piece of personal computer software rather an experience to be savoured and remembered.

Aegis IMAGES is supplied on an unprotected disk which the user can install onto hard disk and comes complete with an 84 page manual. The manual is in fact a full-blown book containing a glossary and index. The standard of writing is very high and provides object lessons in software description. The manual provides little in the way of graphic techniques and concentrates purely on the elements of using IMAGES.

The product uses the Intuition environment of windows, menus and icons. Thus the method of moving around and finding the commands is quite straightforward to those familiar with the AMIGA. Starting at the right hand end of the menu bar, the first section deals with the brushes. There are 16 in number and each can be edited to the user's taste. There are two useful features with the brushes — they can be saved as a separate file, which is helpful where you have created special brushes. For example one of my earliest experiments involved making street maps by defining road junctions, railway lines, churches, etc., with brushes I was able to build up a map very quickly indeed. I then extended this idea to electrical circuits using symbols such as resistors, capacitors and inductors with complete success.



The second feature of brushes has huge potential in the ability to select an area of the screen and pick this up as a brush. Airbrushes also form part of this section and can be defined in terms of spray density and spread.

The next menu selection dealt with shapes and in addition to the usual rectangles, circles and area fills, there were some facilities that I had not seen before. Selecting polygons opened a submenu indicating the number of sides which ranged from 2 to 19, with no restriction on the starting angle of the polygon to the sides of the screen. Parallelogram along with elipse and limited circle circumference were new to me. Arguably the most powerful feature was the user-defined curve. This operated by defining the start and finish point of the curve and then placing the pointer anywhere along the length of this line. By moving the pointer away from the line, the curve was then formed. The effect was rather like that of an elastic band being stretched around a curved surface — very impressive.

This section of shapes also included the fonts selection and provides for up to 6 different types of font on screen. There is room for a product enhancement here in the next version since one very useful attribute was to make up posters quickly, literally as the poster contents were being dictated. Let's hope we can have yet more fonts in the next released version.

When you move onto the following menu selection, namely colours you begin to appreciate the depth of the graphics abilities of the AMIGA. There are 32 colours on IMAGES palette and colours are defined using a proportional gadget which allows modification of the red (R), green (G) and blue (B) components of the selected colour by means of adjusting the colour *hue, luminosity* (black/white ratio) and colour *saturation* or intensity. In this way a colour can be defined from the machine's master palette range of 4,016 colours. Editing of the existing palette can be carried out using the *copy* or *pick* functions. The former allows copying of one colour to another in the palette — the latter allows the colour to be selected from an existing colour on your picture. A very powerful facility called *range* allows the user to provide a range of shades, the

Images

number of shades being limited to 32 (!) within one range selection. For example, suppose you wanted to produce a scene of an ocean — the major color component is going to be blue. By placing a dark blue at one end of the range and a pale blue at the other and then selecting *range* a complete spectrum of shades of blue is produced. *Transparency* is used to create the effect of looking at the colour through tinted glass. This operates by choosing a colour within a pre-defined range and matching the intensity of the colour being painted over with a suitable match inside the range. *Glow* operates in a similar manner to *transparency* by using a range to decide what a colour being painted over will be changed into. When the colour being painted over is not inside the defined range it is changed into the first colour in the defined range — on the next occasion this occurs, the overlayed colour is changed into the next colour in the range and so on.

Patterns form part of the colour menu and have much the same functions of *copy, get* and *pick*. This latter function is very useful for creating patterns from areas on the painting and some very unusual and complex patterns can be defined. The patterns can be edited in the manner of brushes — that is on a pixel by pixel basis where each pixel can be coloured according to your selection from the colour palette. A pattern can also be used in same way as colour and a brush can paint a pattern using any of the shapes available. Colours and patterns can be saved as a disk file - useful where patterns are part of a complex painting. A classic demonstration of how IMAGES and the AMIGA can solve a problem can be shown by the following example. I wanted to have a font in a pattern rather than in a colour. The font can only be rendered in a single colour from the menu — ah! he says — but what if I get the font up on the screen and then select the desired pattern and then *fill*. Placing the brush over the font and there it is a character with a pattern rather than a colour.

The most versatile parts of IMAGES are performed by the next menu selection which is appropriately name Special. In this section further parts of the real strength of IMAGES are to be found *Smear* produces an effect rather like finger painting although the outcome is dependent to a large extent on the size of brush used. *Wash* is much more subtle and accurately descriptive producing a watercolour effect on an area under the current brush. *Cycle Colors* will rotate colours on the screen through a pre-defined sequence of colours. The rate of cycling can be graduated on a scale of 40 units and there are 4 separate colour ranges available. *Cycle Draw* does a similar thing except that it applies to the users current brush. The facilities of these two functions allow for dynamic or static animation such as falling snow, running water or apparent movement of the subject's components.

Mirrors are also supported in this menu and allow for horizontal, vertical and diagonal points. The final option is *Effects* and here at last we come to the core of IMAGES. There are 7 effects each representing substantial power to any type and level of user and put the AMIGA at the forefront of personal computer graphics. *Pantograph* duplicates an area of the screen but the second area is not revealed until it is painted over. *Under* defines a priority for colour overlays — for example, you could decide that your red brush must paint over any colour accept blue, white and brown, alternatively put a pattern on the brush and paint it over another pattern. *Grid* provides a grid-like structure overlaying the display, the dimensions or inclusion of the x and y-axis are variable by user control. *Spread* performs a gradient fill with user selection of the gradient rate and fill colour range. The fill can perform in a horizontal or vertical direction. This function is useful for creating clouds or landscapes very effectively and quickly. *Constrain* binds lines drawn to certain angles whilst *Tile* lets the user define an area to be used as a brush. *Antialias* produces a smoothing effect between the boundary of the background and active colour — for example if you were painting over a green area with a red brush the edges would be tinged either orange or yellow depending on the depth of the original colours. Versatile is rather an understatement in describing these functions!

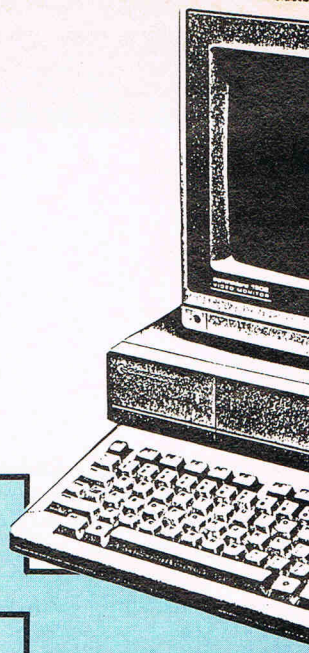
The edit menu provides a *magnify* facility which produces a window that can be moved anywhere on the screen and resized. The actual depth of magnification possible with this function is astonishing with the pixel size being taken to about 1 inch (2.5 cms) at maximum magnification. IMAGES supports 2 screens per application in 512k RAM AMIGA and this facility is used with the next function *frame*. This has to be the flashiest part of IMAGES and is *guaranteed* to draw gasps from onlookers who have never seen it. *Frame* operates by opening a movable, resizable window which is then placed over the area to be framed. The frame then picks up a mirror image of the area which can then be placed elsewhere on the screen. Alternatively the frame can be moved to the other screen within IMAGES for further manipulation. The clever part of *frame* is the facility to resize the frame itself. When this is done the object within the frame *maintains proportion* with the new size. If that is not enough the framed object may be *rotated to any angle within 180 degrees*. Finally, the entire frame contents may be used as a paintbrush! The overall effect is compelling to both user and viewer alike. The final and personal favourite function in the *edit* menu is the *undo* command — this allows a backtrack to take place when you have just put a bright green squiggle across your masterpiece.

The remaining menu termed *Project* deals with file input/output of your screen to disk or printer, etc. Printers are driven through the Preferences section of the Workbench and custom printer drivers must be installed in the devices directory if your printer is not directly supported — the quality of printed output is a function of the printer itself. The file format used by IMAGES is IFF — this is a standardised AMIGA structure for data allowing portability between applications. Established IFF standards being supported by Commodore-AMIGA cover graphics, audio and text files and aims to achieve full integration of user data. For example you can freely interchange files created in Aegis ANIMATOR (reviewed in this issue) or DE-LUXE PAINT or GRAPHICAFT.

So there it is — a piece of software that is not onyl functional and fast but provides an excellent vehicle for user creativity. It is very difficult in the course of a couple of thousand words to adequately describe Aegis IMAGES. To fully appreciate this product you have to see it in the hands of someone who is familiar with both the hardware and software. Note just how fast the creative cycle is. Then, try it for yourself — your perspective on personal computer graphics will be changed forever after this.

UK Distributor:-
Precision Software Ltd.
6 Park Terrace
Worcester Park
SURREY KT4-7JZ. tel 01.330.7166

Total Office . . .
Commodore C128



Integrated Information Management

Word Processing

High Performance Wordprocessor taking full advantage of the C128 features. Full integration with Database (for mail merge, report writing etc.), Spreadsheet and Accounting Software. Features include: vary margins, justify text, search and replace words or phrases, vary page and paper length, copy, move and delete blocks of text. Print preview mode allows you to preview text prior to printing. Also works with integrated data from database, spreadsheet etc.

Spreadsheet

You can use the Spreadsheet to analyse cash flow and return on property and stock portfolio investments or use it for budgeting and forcasting.
Each cell can hold text or formulas simultaneously. Because of the dual nature nature of each cell, you can reference a number by name at another place in the Spreadsheet if you don't remember the coordinates. Frequently used formulas can be replicated throughout the 68 columns by 99 rows. Features include: sum, divide, multiply, add, subtract, minimum and maximum values, scientific and trigonometric functions and more. Choose either manual or automatic recalculation. Conditionals can be performed on any value or formula to test theories or affect other values or formulas in the spreadsheet.

Database

This computerised filing cabinet allows you to store and organise mailing lists, inventories, personal files and much more. These items can then be retrieved by category, name, index key or data range. Sort on up three categories at one time. Create sub files for specialised reports. Transfer data between different database files.

High Res. Graphics

You can create a pie chart which will graph up to nine values. Line graphs and bar graphs can display up to three sets of variables in one chart. Both positive and negative values can be displayed. In the bar chart, each variable can have up to 12 horizontal increments; the line graph can have up to 50. Scaling can be automatic or you can define your own minimum and maximum values. Text mode is incorporated with each graphic screen.

Also Available:

Spell Checker (P.O.A.)

All In O
C1
79.
'Am
Acc
149

MONE
GUAR

If you are diss
software, you may
14 days of date o
you can give a va
software i
There will a £10.0

Trade In Policy

We believe that 'Total Office' is the most powerful package on the market. If you have just bought another package with less features and wish to upgrade to 'Total Office', we will accept your old C128 program as a trade in and allow you £25.00 against the cost.

Ring for details of 'Total Home Accounting' £24.95.

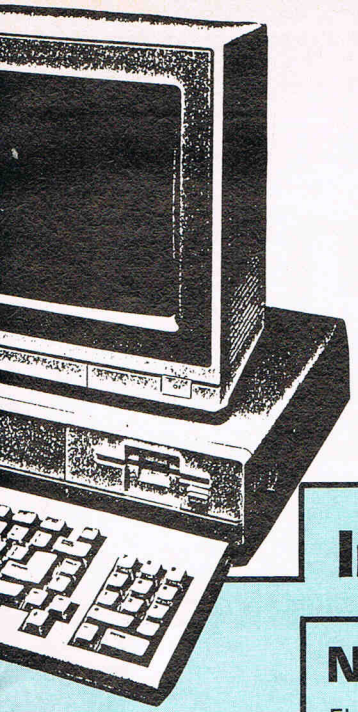
Dealer/Distributor and Overseas Enquiries welcome.

Integrated Productivity Soft
Performance and Versatility

The beauty of integrated software is that yo
your needs. Because programmes are in
system, you can go from one programme
without losing screen information. No time l
or in creating data transfer files. A window ca
be viewed in one screen, while working with
the other screen. You can generate forms
customized with specific information.

See the software at

G & B Computers, 230 Tottenham Court Road, London W1. Phone:



A Breakthrough in Integrated Office Automation

Integrated Accounting

Nominal Ledger

Flexible computerised accounting system designed to handle the usual day to day finances for Small Businesses. Its purpose is to provide a better alternative to manually operated systems, whilst observing normal accounting conventions.
Control accounts for Debtors, Creditors, Bank and Cash are built into the system to enable fast entry of mixed transactions. Up to 135 nominal accounts can be arranged in sections for easy reference.
Automatic updating of VAT accounts (when applicable) and posting to detailed Profit and Loss Account and Balance Sheet is also featured. Reports include Full Transaction/ Audit Trail Reports, Trial Balance and Final Account Reports.
Features ability to isolate Nominal Ledger from Sales and Purchase Ledgers for Cash Trader and Incomplete Records applications.

Sales/Purchase Ledgers

Sales and Purchase Ledgers are supported on an open item basis. Updating of Ledger Accounts is automatic for both Invoices and Payments.
Items may be matched or part matched and differences detailed.
Accounts may be restored monthly with matched items put to an Archive File.
Fully supports inter account transfers and write offs.
Full information and interrogation features are provided on all Ledger Accounts.
Age List of Debtors and Creditors may be output to screen or printer.
Statements include age report and monthly balance breaks.
Remittance Advices for Suppliers observe credit terms for printing.
Items may be flagged as 'Payable' for adhoc Remittances.

Cash Accounting (Incomplete Records)

Full blown 'Cash Trader Accounting Package' with Full Final Accounts included for Cash Traders and Incomplete Records Applications.

Diary

Full on screen Financial Diary for notes, appointments, expenses etc. included in package.

Also Available
Stock Control (P.O.A.)
Invoicing (P.O.A.)
Payroll (P.O.A.)

'Amiga' Accounts

ne Price
28
95 (INC. VAT)
iga'
unts
.95 (Plus VAT)

Y BACK
ANTEE
tisfied with the
eturn it to us within
purchase provided
id reason why the
unsuitable.
re-stocking charge.

ware:

can tailor it to meet
grated as a single
o another instantly
st in swapping disks
ability allows data to
nother set of data in
reports, and labels,

01-580 3702

TOTAL OFFICE SOFTWARE LTD., Debden Green, Saffron Walden, Essex CB11 3LX.

Please rush me ..... copies of 'Total Office' (C128 @ £79.95) / ('Amiga' Accounts £149.95)

Name .....

Address .....

.....

Signed .....

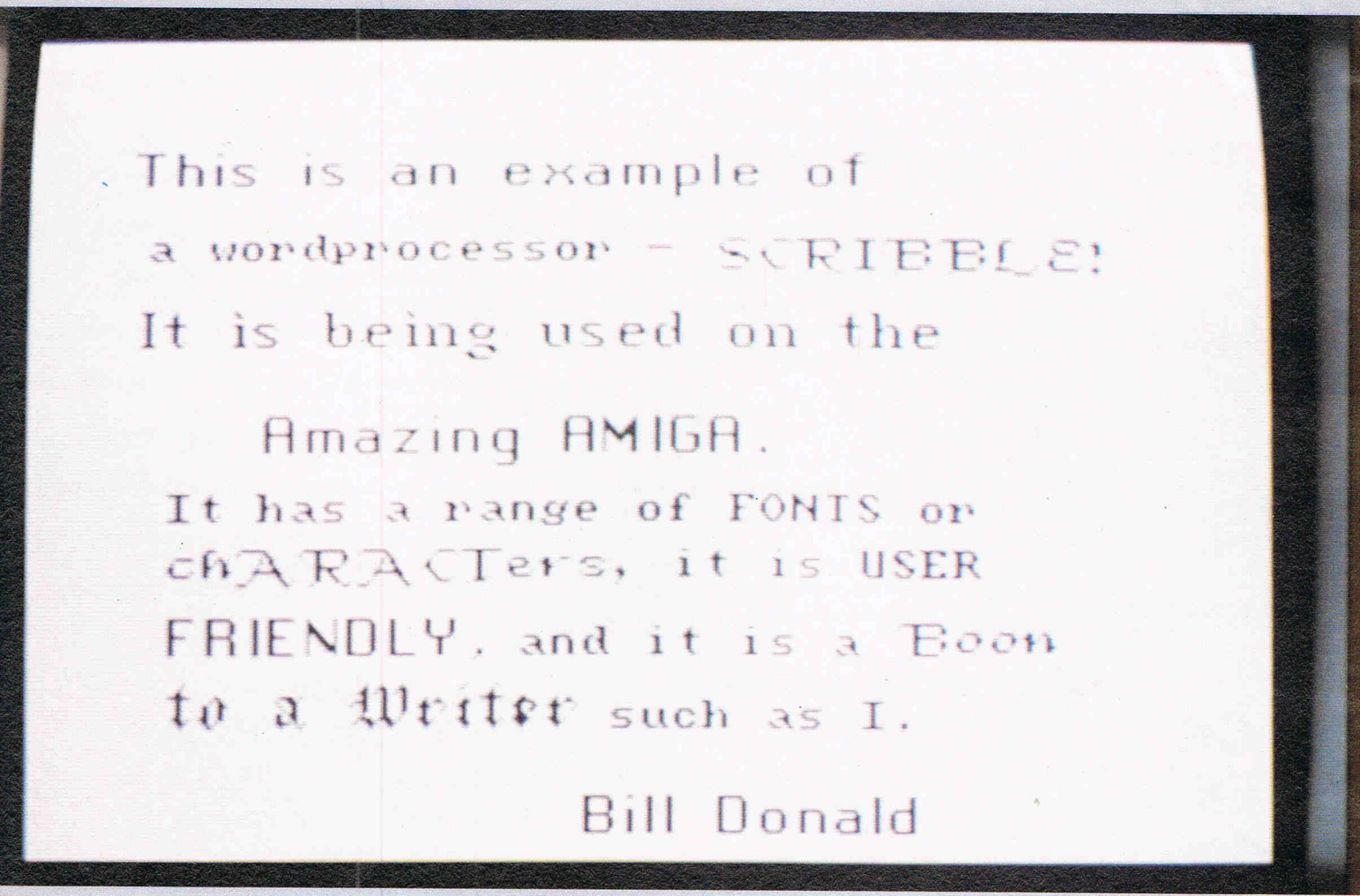
Enclosed is cheque for £ .....

Charge to my Credit Card No. ..... Expiry Date .....

Telephone — Enquiries: 0371 831009 Credit Card Orders Hotline: 01-502 4423

Wordprocessing on the Amiga

Textcraft and Scribble


This is an example of
a wordprocessor - SCRIBBLE!
It is being used on the
Amazing AMIGA.
It has a range of FONTS or
cHARACTers, it is USER
FRIENDLY, and it is a Boon
to a Writer such as I.
Bill Donald

This is a much favoured subject of mine — I have to take more than just a passing interest in wordprocessing being a professional writer. The software is only one half of the wordprocessing equation, the other being the hardware. Therefore, the total equation for me represents the very tools of my chosen trade, and naturally like any craftsman I look to the all-embracing question of 'value for money'. The wordprocessing requirements of a writer/journalist are very different from those of a secretary/-typist/casual user — a writer tends to make more severe demands on the overall system. What I look for above all else is security of my data, in other words I must not be able to burst the my eyes out of their roots after some 8 hours of use. The AMIGA addresses the hardware requirement fairly and squarely and I have no complaints at all in that direction. My own system with two 3.50 inch drives and one 5.25 inch drive which provides me with a little over 2.0MB of on-line storage; the 1070 monitor has a frosted screen which minimises reflection whilst the brightness and contrast controls have sufficient range to cover the most arduous of viewing conditions, including direct sunlight.

What wordprocessing software is available for the AMIGA at present? So far I have managed to locate two, both of which take completely different approaches to the varying demands placed upon them by the user.They are TEXTCRAFT and SCRIBBLE!.

TEXTCRAFT is a U.S. product, marketed in the UK by Commodore. The software under any circumstances, short of catastrophic hardware failure.

The demands I make on the wordprocessing software tend to consist of massive text block shifts with extensive cut and paste, fast spelling checks and continuous word count, multiple file inserts and block saves. In terms of the hardware, my requirements extend to a large memory to hold very large documents, very fast storage since my saving and loading cycles are quite intensive, capacious storage and not least, a screen display that is not going to pull

Meet your New Business Partner

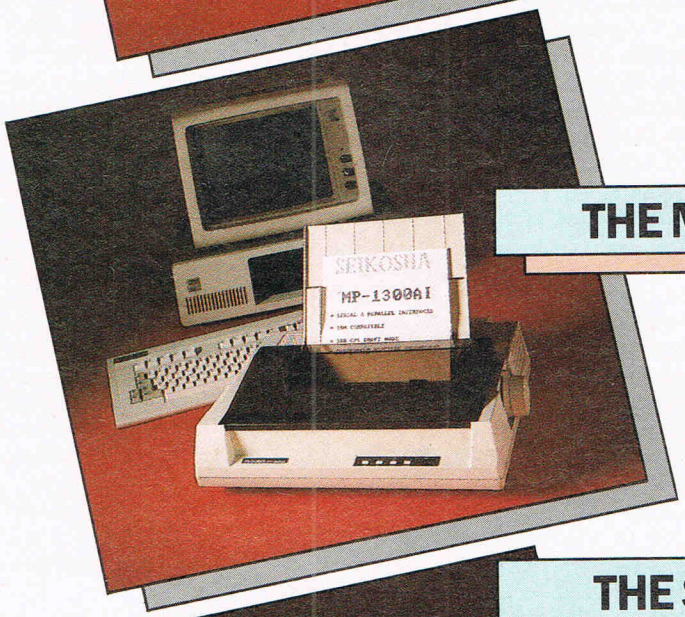
Whatever the size of your business, the Seikosha range of advanced, high-performance printers will suit your requirements.
This exceptional range of dot matrix printers reflects the craftsmanship, advanced technology and reliability that you would expect from the 'House of Seiko'.
For heavy-duty use, the robust BP Series offers very fast speeds, low noise levels and multi-function features – at low cost. The recently introduced MP Series will suit the PC user who wants exceptional speed at an unbeatable price. And for the growing business looking for a budget printer compatible with all the popular micros, the SP Series is the ideal choice.

THE BP-SERIES

Around **£1449.00** + VAT

Top of the range, the BP5420AI is fast, quiet, strongly built and suitable for use with micros, minis, and networked multi-user systems. It has a print speed of 420cps (draft) and 104cps (NLQ) and other features include:

- Parallel and Serial Interfaces as standard.
- Front panel selection of NLQ, Fonts, Pitches, etc.
- 2 Selectable modes (IBM PC or Epson compatible).
- 18K Buffer as standard.



THE MP-SERIES

Around **£433.00** + VAT

The latest addition to Seikosha's range, the MP1300AI offers not only high speed – 300cps (draft) and 50cps (NLQ), but high-quality printing with an optional "clip-on, clip-off" colour upgrade kit (Epson JX80 compatible). Features include:

- Parallel & Serial Interfaces as standard.
- 2 Selectable modes (IBM PC or Epson FX compatible).
- Automatic cut-sheet loading and ejection after printing.
- Standard friction and detachable tractor. 10K Buffer as standard.

THE SP-SERIES

Around **£250.00** + VAT

The SP-1000 is the first in this series of professional printers. A combination of high performance (100cps draft, 25cps NLQ) at low cost puts the very best of printers within easy reach of the smallest business. Its impressive list of advanced features includes:

- Automatic cut-sheet loading.
- Friction and detachable tractor as standard.
- Special models compatible with Apple Imagewriter, Amstrad, Sinclair QL, Atari, Commodore and MSX.
- Epson FX Compatible.
- Supplied with cut-sheet guide/holder.
- Front panel selection of NLQ.

Distributed exclusively by DDL. For details of your nearest stockist contact:

DDL
Unit 4, Raglan Court, Clayton Road, Risley, Warrington, Cheshire WA3 6SZ
Tel: (0925) 821646; Tlx 629718
Fax (0925) 828 288

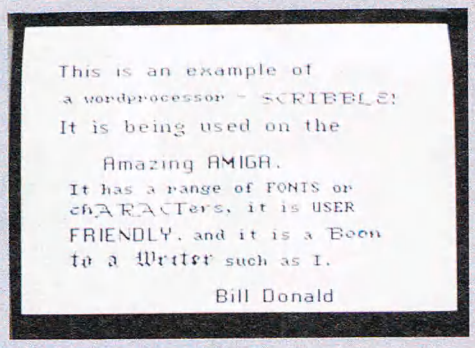
THE FORCE IN DISTRIBUTION

IBM is a registered trademark of International Business Machines Corp. EPSON is a registered trademark of SEIKO EPSON Corporation.

edition I looked at was version 1.0 and my comments relate to this version only. The product is supplied on a non-protected disk along with an extensive manual. The manual follows the excellent format and style of the AMIGA User Manual and is designed to fit into the ring binder supplied with the machine. TEXTCRAFT makes extensive use of the elements of INTUITION, the graphical overlay of the AMIGA operating system. These elements include mouse pointers that change shape and take on a form representing the current operation. For example during a cut and paste operation, the pointer changes to a pair of scissors for the cut and a heavy-duty paint brush during paste. During normal editing mode the pointer is shaped as a pencil and for copying a camera image is used. Some readers may scorn such things as being trivial and childish — in all fairness I also felt the same initially. However, I rapidly changed attitude on observing computer novices very quickly learn and produce some standup work in an extremely short space of time.

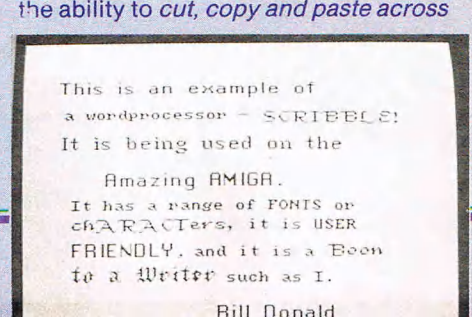
The actual wordprocessing facilities themselves were adequate as opposed to comprehensive. For example, no spelling checker and only one document in memory at once. However, the good points were: very fast reformatting of text, different fronts on-screen i.e. bold, italic, underline, subscript and superscript and fast cut and paste. TEXTCRAFT does not support block saves or inserts from disk and the file handling is clumsy. One feature I particularly liked was the inclusion of bare template documents such as business and personal letters, technical and business reports, memos and not least in these times of mass unemployment, a curriculum vitae. Another plus point was that TEXTCRAFT will also read in documents that were created using the NOTEPAD utility in the WORKBENCH.

Because of the visual appeal and hence ease of use TEXTCRAFT is a very good product. The type of purchaser on this version of the product I would envisage to be the light user/repetitive document category. Perhaps the real strength of TEXTCRAFT lies in teaching the elements of wordprocessing for example, in an office staff bureau or schools. It would almost certainly be a cost-effective approach given the other facilities the AMIGA offers particularly in terms of moving users from the AMIGA environment on to the drab world of PC-DOS which, in case you weren't aware the AMIGA can also support. If nothing else, you MUST go and see TEXTCRAFT in use, not only will it show you wordprocessing as it will be in the future, but also give you the feel of an AMIGA's graphics capabilities in a real-life application.


This is an example of
a wordprocessor - SCRIBBLE!
It is being used on the
Amazing AMIGA.
It has a range of FONTS or
cHARACTers, it is USER
FRIENDLY, and it is a Boon
to a Writer such as I.
Bill Donald

SCRIBBLE! comes from the same stable as ANALYZE! Spreadsheet, (also reviewed in this issue). The product is supplied on an unprotected disk, so backups are not a problem and a good user manual. The manual does not make too many concessions to learning about wordprocessing, but it does fully cover the facilities on offer from the product. SCRIBBLE! takes the much more conventional wordprocessing route and concentrates less on the visuals and more on the facilities. Obviously this product appealed much more to me as a writer — indeed, I decided to give SCRIBBLE! a realistic test of it's capabilities. This was done by writing *EVERYTHING* for this particular magazine issue using SCRIBBLE! Not only was SCRIBBLE! robust enough to withstand the vast amount of editing, but I never managed to lose a single character during this period.

A full range of format commands are available for headers, footers, offsets, soft-spaces, etc., all the usual paraphenalia of wordprocessing. Although a continuous word and character counter is available, no spelling checker yet, although this should be rectified in the next version which will be issued free to registered users. This also applies the mail merge facility which is also not present in the version of SCRIBBLE! under review (v1.01). SCRIBBLE! was undoubtedly more usable than TEXTCRAFT in terms of the facilities available. Probably the most powerful feature was the ability to partition memory and create additional windows. A document file could then be loaded into the window thus allowing the user to work on several documents at once merely by switching windows using the INTUITION depth-arranger gadgets. SCRIBBLE! would allow three documents in memory at any one time along with complete resizing of each window so that you could view segments of each document. Even more impressive was the ability to *cut, copy and paste across windows*. This is an extremely advanced feature demonstrating further the inherent strength of the AMIGA.


This is an example of
a wordprocessor - SCRIBBLE!
It is being used on the
Amazing AMIGA.
It has a range of FONTS or
cHARACTers, it is USER
FRIENDLY, and it is a Boon
to a Writer such as I.
Bill Donald

This 'cross-window' ability allowed me to edit my text very quickly indeed and naturally this was reflected in the best productivity figures I have ever achieved in one day. The next note will probably mean more to those readers who are also professional writers — the creativity process is not necessarily continuous and there are always those periods when the flow comes to a halt... solution:- carry another document in memory and switch to this when you become bored or tired of the apparently uninspired text. I found this to be the secret of dramatically increasing my own throughput.

SCRIBBLE! makes use of predefined format files which allow you to set printer control sequences and standard text lines such as letter headings, etc. However, one of the more useful abilities with these format files is to change screen and character colour which further reduced the 'boredom quotient' of wordprocessing when required. I also liked the facility which gave the option to save documents to disk in ASCII format. This is of particular value in terms of text portability across different applications such as other wordprocessors, spreadsheets and data communications between machines directly or using a modem.

Summarising both products I would say that neither has reached the status of being completely through their development cycle. However, do not let those words detract you from purchasing them. For one thing, there will be upgrades available and secondly they are robust enough to withstand the toll of daily use — I could get neither product to crash the system. Wordprocessing is a rather emotive subject in terms of personal computers and to a certain extent individual taste.

A demonstration of both is essential in order to appreciate fully and then decide which product will satisfy the user's requirements. My own personal choice at this stage is SCRIBBLE!

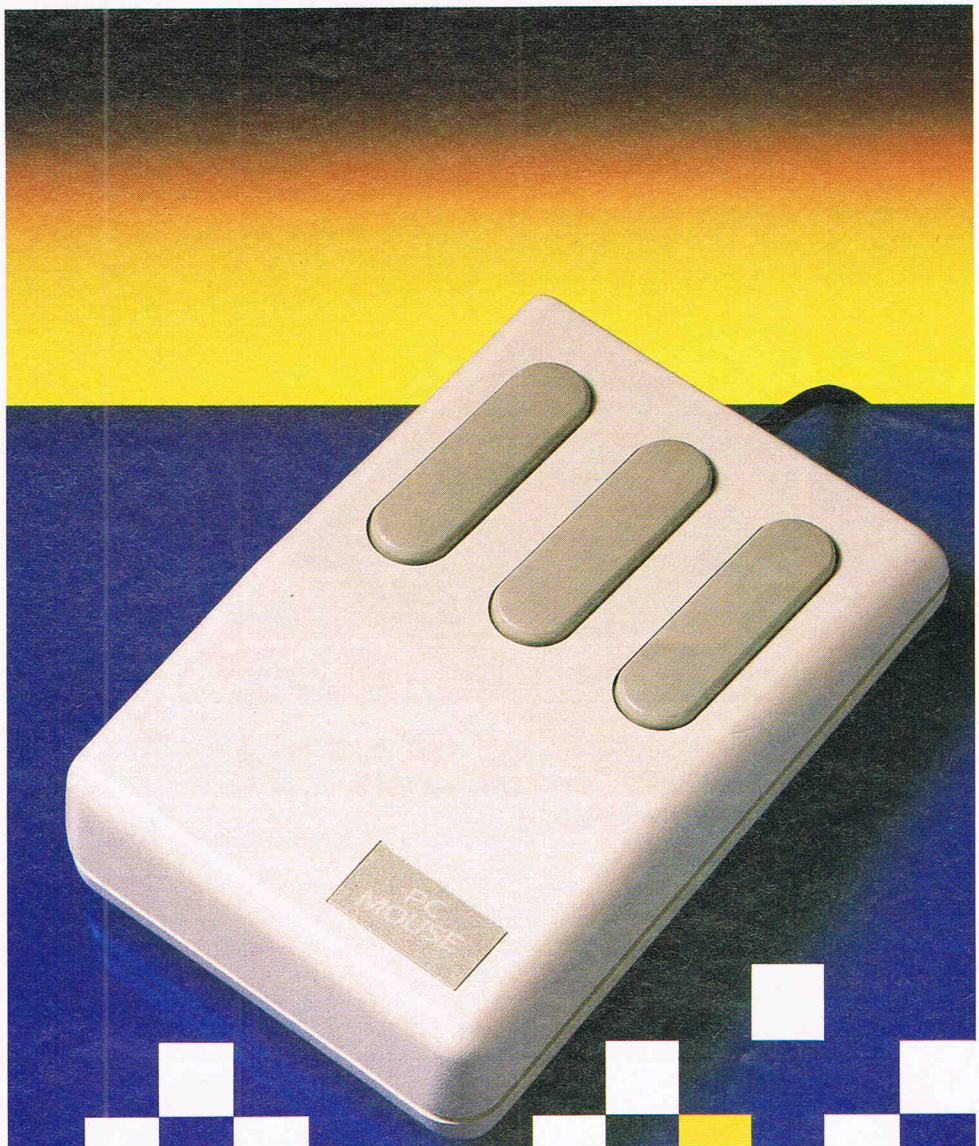
Textcraft and Scribble

SCRIBBLE! Supplier:- Micro-Systems Software, 4301-18 Oak Circle, Boca Raton FL 33431 USA. Tel: 305.391.5077

SCRIBBLE! — UK Distributor:- Precision Software Ltd., 6 Park Terrace, Worcester Park, SURREY KT4 7JZ. Tel: 01.330.7166

TEXTCRAFT — UK Distributor:- Commodore Business Machines (UK) Ltd., 1 Hunters Road, Weldon, CORBY NN17 1QX. Tel: 0536 205252

P C M O U S E



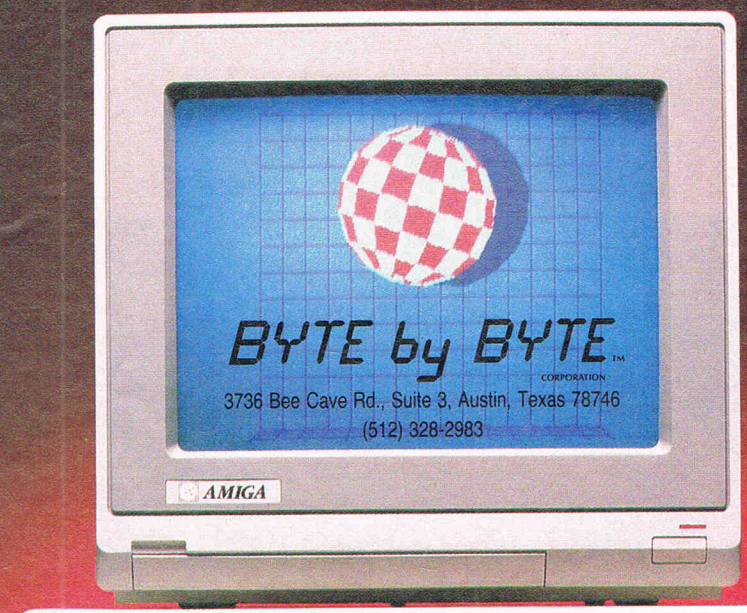
POINTS YOU IN THE RIGHT DIRECTION

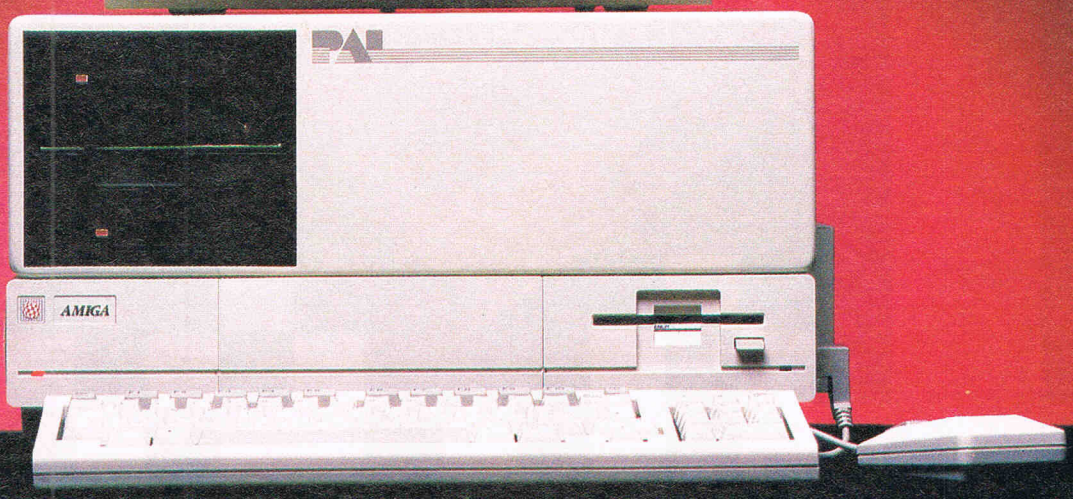
AND LOTS MORE

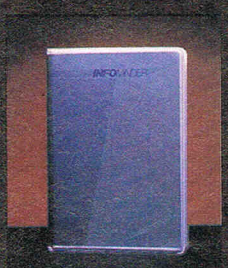
Mouse Systems Optical PC Mouse
Exclusive UK Distributor
Data Design Techniques Ltd.
Unit 16B, Norman Way
Severn Bridge Industrial Estate
Portskewett, Newport, Gwent NP6 4YU.
Phone: 0291 423781
Telex No. 497576 FAX 0291425442

UNLEASH THE AWESOME POWER OF THE AMIGA!

The PAL is a turnkey expansion chassis that provides the most powerful and cost effective hardware growth path for your AMIGA. Features: High speed direct Amiga DMA controller and hard disk • Five DMA expansion slots • 1 Meg Ram with Clock/Calendar • Room for multiple storage/retrieval devices • 100% compatible with current and future Amigas • 1 to 8 megabyte ram card options • Optional pass through bus connector for further expansion • Optional prototyping card • Future products currently under development







INFOMINDER is an intelligent information resource that provides the user with instantaneous access to reference information stored within the Amiga personal computer.

Fully supports multi-tasking · Fast access by menu or outline · Text capabilities include: Justification, WordWrap, Multiple character fonts/styles · Information content completely user definable · Supports combination of TEXT and IFF GRAPHICS · Programmatic interface for context sensitive help · Narration and printing of information · Expand and shrink topics.

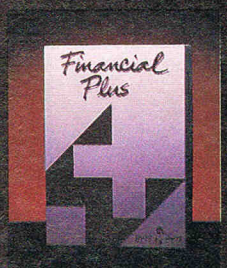
INFOMINDER will revolutionize the way we access textual and graphical information. Stop searching and START using the information around you.

WRITE HAND is a general word processor and form letter generator that gives you the most features for your dollars. Developed to meet the special needs of small business, WRITE HAND is easy to learn and easy to use.

WRITE HAND challenges you to compare the following features dollar-for-dollar, feature-for-feature to those of other word processors on the market today.

· Extensive on-line HELP service · Form letter generator · Powerful editing capabilities · Formats documents while you edit · Reviews and merges files while you edit · Moves blocks of text and figures of any size · Provides word wrap, bolding and underlining.

Make WRITE HAND the tool that moves your business into the productive world of electronic word processing.



FINANCIAL PLUS is the affordable way to put your business at your fingertips. FINANCIAL PLUS is the complete accounting solution with five systems in one:

· General Ledger · Accounts Payable · Accounts Receivable · Payroll · Word Processor.

FINANCIAL PLUS is adaptable. You customize each company according to its size and bookkeeping needs.

An easy-to-read, easy-to-learn users guide provides comprehensive instruction for setting up your own books. Plain-English menus are the system "roadmaps" for both the novice and for the more experienced. Because FINANCIAL PLUS is a totally integrated accounting system, no longer must you purchase individual packages, store entries on separate diskettes, or run confusing transfer programs to obtain complete integration.

COMMODORE 64 DYNAMITE SOFTWARE 128 COMPATIBLE

C POWER Fully implemented C Compiler for the 64, as defined by Kernighan & Ritchie. 541 page manual. Shell Program Manager, Screen Editor, Linker, Function Libraries and Text Formatter. Produces Efficient and compact m/c. **£119.95 (d).**

PASCAL 64. Fully implimented Pascal Compiler producing fast and compact M/C. Also provides many graphics and database commands. **INTERRUPT** command allows your routines to run in parallel. **LIBRARIES** of useful routines may be built up. Excellent manual. **£39.95 (d).**

ZOOM PASCAL. Powerful subset of Pascal, produces fast and compact M/C. Also includes many string, machine language and file handling routines. Comes with professional **EDITOR. £24.95 (d).**

BASIC 64 Professional BASIC Compiler. Compiles all C64 BASIC commands. Produces fast m/c. Many user options. Compiled programs run upto 50 times faster than BASIC. **£35.95 (d)**

ASSEMBLER 64 Professional Development System. Program as easy as BASIC. LABELS, VARIABLES, PSEUDO OPS (ascii, base, bit, byte, end, out, word), CONTROL COMMANDS (assemble, disassemble, save, load, display, stop, erase), PRINTING. Assembler and BASIC programs can be mixed. **£11.99 (d) £7.99 (t)**

MIKRO ASSEMBLER The best Assembler available. Comes on plug in cartridge. COMMANDS — assemble, auto, delete, disassemble, find, format, number, table, trim. PSEUDO OPS — byte, end, ifdk, off, out, txt, wor, *. Also powerful MONITOR. Print to CBM and Centronics printers. **£50.00 (c)**

DATABASE 64 Menu driven database system, allowing upto 30900 records, 255 character records. SETUP unlimited number of databases. ADD, INSERT, DELETE, AMEND, VIEW records. SEARCH for records on any field with pattern matching. Searches thousands of records in under 1 second. SCROLL through records. PRINT records and reports. SAVE and LOAD to disk or tape. Supports disk and tape users. On line help screens. Full manual. **£11.99 (d) £7.99 (t)**

FREE Assembler 64 or game, disk or tape with orders over £15. Orders over £50 may also have 1 of 20 books.

DYNAMITE SOFTWARE
Dept. CCI,
27 Old Gloucester Street,
London WC1N 3XX, England.

INSTANT RECALL Powerful database system for C64. Unlimited number of databases, each upto 31,000 records. Records upto 255 chars. Search on any field, or across fields with pattern matching, or by record number. Matches upper and lower case. Searches 5,000 records in half a second. Design reports or labels. PRINTS on any CBM or Centronics printer. SCROLL backwards & forwards. DISK DIRECTORY. SAVE and LOAD databases to DISK and TAPE. Supports disk and tape users. On line Help Screens. Dozens of other features. **£19.95 (d) £17.95 (t)**

WORD PERFECT Professional word processor system. Easy to use. Many advanced features — Insert/Delete lines, Move/Copy/Erase text, Margins, Tabs, Centre text, Find, Reformat, Scrolling, Proportional spacing plus dozens of other features. **£21.95 (d) £19.95 (t)**

BUSICALC Advanced electronic Worksheet (Spreadsheet), upto 1200 cells, move around sheet, Jump, Save, Load, Replicate, Insert, Delete, Print, Walk, Format, Quit, Colour, Formulae evaluation, rounding and much more. **£21.95 (d) £19.95 (t)**

SUPERBASE 64 Fully featured database information system. Upto 1000 chars per record on upto 4 screens, and upto 128 items per record. Fields definable as key, text, numeric, constant, result or date, in files of upto 16 million characters. Superbase also has Spreadsheet and calculator capability, calendar functions, sorting/searching, menu and command driven, fully programmable, definable reports. Much more. **£79.95 (d)**

MICRO MAGPIE Advanced database management system. Create database tailored to your exact needs. Manipulate data between different files, perform calculations, print reports and graphs, fully programmable, pop-up menus, search on any field, works with 1 or 2 disk drives, CBM and Centronics printing. Much more. **£39.95 (d)**

BRIDGE CARTRIDGE £19.95
FORTH CARTRIDGE £29.95
OTHELLO BOARD GAME £7.95 (d) £5.95 (t)
MONITOR CARTRIDGE £28.95
BLITZ BASIC COMPILER £50 (d)
SUPERSCRIPT 64 £79.95 (d)
SUPER DISK UTILITY £12.50 (d)
GRANDMASTER CHESS £17.95 (d) £17.95 (t)
SCRABBLE BOARD GAME £1.95 (d) £12.95 (t)
ANATOMY OF THE C64 BOOK £12.95
STAGSOFT RESET BUTTON £5.95

All orders normally despatched within 7 working days. Overseas orders add £3.

GRAPHICS DESIGNER 64 Menu driven Graphics Editor. Create high res. pictures, with keyboard, light pen or joy stick. Draw lines, boxes, circles, ovals, triangles, fill with colour, add captions. Create slide shows. Applications include design, engineering, graphic art and games. Many other features. **£19.95 (d)**

1541 FLASH Speeds up 1541 disk drive by over 3 times. Compatible with all commercial software. Leaves cartridge and user port free. Several other features. Easy to fit. **£89.95 (kit).**

ANATOMY OF THE 1541 DISK DRIVE 300 + page technical guide to the 1541 ROM disassembly with comments, disk commands, data storage, DOS operation, relative records, direct access, disk structure, programs and much more. **£12.95**

FRENCH 64/GERMAN 64 Two excellent educational language packages. Both teach with user involvement — each contains 9 lessons, teaching and testing verbs, grammar, spelling & sentences. Topics include numbers, time, colours, weather, shopping, clothes, animals and many many more. **£12.95 (d) £8.95 (t). Both packages £16.95 (d) £12.95 (t)**

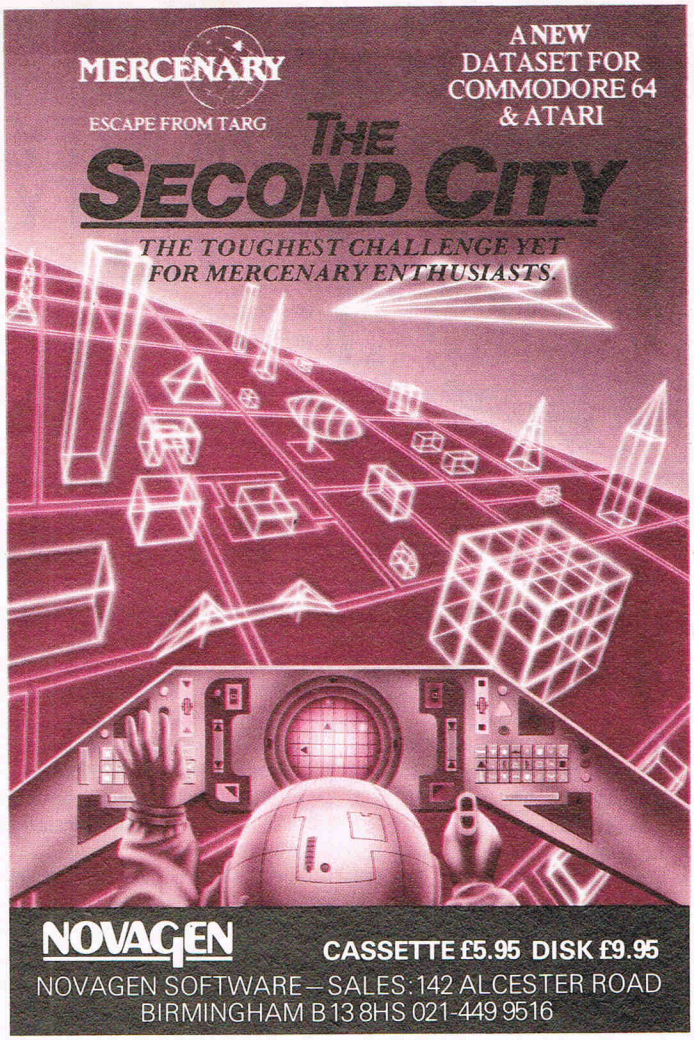
BEGINNING RUSSIAN ON THE 64 The only Russian educational package for the 64. Contains the full Russian alphabet. The package is divided into 3 sections — introduction to the Russian alphabet, vocabulary, exam and a look at Moscow (excellent graphics). **£13 (d) £9 (t)**

CHECKBOOK MANAGER
Computerise you check book. Information stored on a disk file, including cheque number, date, payee, amount, bank balance, and a returned indicator. Transactions may be listed to screen or printer. Other features. **£12.50 (d)**

STAT 64 CARTRIDGE STAT 64 adds 19 statistical commands to your BASIC. Bar charts (histograms) horizontally or vertically, plotting with 64,000 points, screen dump, mean value, standard deviation, variance etc. **£28.95**

CHARTPAK 64 Professional package which produces charts in high res. mode. You can Enter, Edit, Save and Recall data easily. Chartpak interactively builds charts — pie, bar and line. You control scaling, labelling, and position of chart. Charts created in 8 modes. Send final results to CBM 1515, 1525 or Epson MX-80 or FX-80 printers. **£24.95 (d)**

All programs come with a comprehensive manual. Send 22p stamp for catalogue (overseas £1)


MERCENARY
ESCAPE FROM TARG
THE SECOND CITY
A NEW DATASET FOR COMMODORE 64 & ATARI
THE TOUGHEST CHALLENGE YET FOR MERCENARY ENTHUSIASTS.
NOVAGEN
CASSETTE £5.95 DISK £9.95
NOVAGEN SOFTWARE — SALES: 142 ALCESTER ROAD
BIRMINGHAM B13 8HS 021-449 9516

● CBM 64 AND 128 ● TRANSFER ALL MAJOR TURBOS ● AUTOMATIC ● NO USER KNOWLEDGE ●

DISK TO DISK ● DISK TO TAPE ● TAPE TO TAPE ● TAPE TO DISK

NO HARDWARE ● TURBO IDENTIFIER ● AUTO LOAD OPTIONS ●

COMPARE THE REST WITH THE BEST NOW DOSOFT OFFERS YOU EVEN MORE!

MegaTransfer Disk V.4.0

Before you decide which tape-to-disk utility to buy, consider if it gives you:
● **Full conversions of MultiStage Programs** to load from Disk ● Fifteen top titles including the latest sports, flight and fight simulations. No more tape winding! No other utility *of any description* can offer this ● **General purpose transfer routines for the major turboload systems Nova, Burner, Visiload, Flash** and **Pav** (including the *very latest* Pavloader as used on current chart toppers) and more. These routines will transfer programs which **won't normally load with the Disk Drive present.** ● **A huge collection of specific routines** for *individually protected programs*, all accessed via an easy Menu System. ● **A program identifier,** and the classic **Diskus 1.2** to transfer your vintage slowload collection.

MegaTransfer V.4.0. is economical of Disk Space, transferring only the actual program material. Transferred programs will reload at **over four times the normal rate** with the incorporated **Disk TurboLoader,** which also allows your *existing* disk programs to be fastloaded from disk.

MegaTransfer V.4.0 is *vastly extended* from previous editions. Despite claims to the contrary, **it will transfer programs which no other utility will handle. Beware of similar sounding utilities,** which consist almost entirely of disguised versions of *our old material*. If you want to be up to date, you need MegaTransfer, the **real 'Turbo Smasher'.**

At press time, all advertised **Turbo-to-Disk software** originates from DoSoft. **£17**

MegaUtility Disk V.4.0

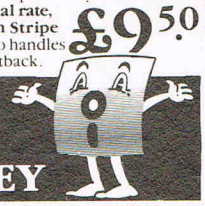
WITH TEN FREE DISKS

● **NEW AlphaLoad disk TurboLoader** for games etc. Add this five block program to each disk and your programs will load at over four times the normal rate. No menu is required and you *don't* have to load Alphaload separately. Much improved over previous versions. ● **Programmer's TurboDisk Utility.** Fast load, save, and verify. Works with all device numbers. Displays program start and end addresses. Includes easy DOS commands. **Compatible** with most expansion cartridges. ● **Whole Disk Copier** backs up an entire disk in **under three minutes.** ● **Turbo File Copy** selected files from Disk-to-Disk. Reads and writes at **five times normal speed.** ● **Nibble Disk Copy** backs up most protected disks in just **five minutes.** Reads and writes all errors *automatically*. ● **Fast Format.** Format your disks in a fraction of the normal time. ● **Disk-to-Tape Plus.** Transfer a wide variety of **single and multipart disk programs** to tape with visible screen/stripe border turboload. Includes professional mastering scheduler. An interesting program (not for protected disks). ● **MegaUtility Disk** is supplied **complete with 10 FREE 3M Blank Disks** (with plastic box, as specified in this ad.), for just £17.00. How's that for value! **£17**

MegaTape Super Value

● Our famous tape utility for **One Datassette** (or equivalent). **No additional hardware is required. MegaTape comprises:** ● **Tape-to-Tape transfer routines:** A vast collection for the major turboload games ● **Simple to operate,** MegaTape handles a vast range of *different* fastload systems, and even *increases* loading speed in many cases. ● Features our **Visi-Screen, Stripe TurboLoader** ● **The most powerful Tape-to-Tape** software ever devised. ● **RBS Plus.** Our classic **turbo conversion utility** gives a new lease of life to your vintage slowload tape collection. Converted programs load independently at **SEVEN times the normal rate,** with **Visi-Screen Stripe TurboLoad.** Also handles old RBS and Fastback. **£9.50**

AND SAVE MONEY



● Buy **MegaTransfer and MegaUtility** together (price **£34.00** *including* **10 FREE Disks (& Box)** and receive MegaTape (on disk) and our praised sprite library/editor (Pro-Sprite) absolutely **FREE!**
● Purchasers will receive details of future updates and can buy new DoSoft Programs at advantageous prices.

Existing customers: send *any DoSoft Instruction Sheet* (disk or tape) and **Twelve pounds only** for Megatransfer Disk V.4.0.

3M Disks at Low, Low Prices

Why buy unlabelled, unbranded disks of uncertain origin and specification?
● We offer top class, 3M Disks bearing the manufacturer's label, at an unprecedentedly **low, low price** ● Specification SS/DD 744D-0, suitable for all 5¼" drives ● Complete with labels, write protect tabs, Tyvac spun acrylic sleeves and a **FREE Flip/File High Impact Plastic Storage Box worth £2.75** Our **Inclusive Price** is just **£12.50 per box of ten.** No extras. No catches. This is the price you pay. **UK POST FREE.** **£12.50**

We take a bite out of Disk Prices!

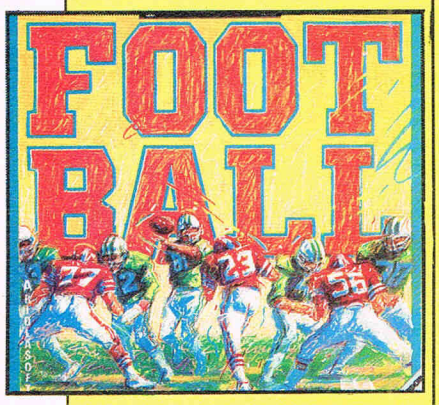
How to get your DoSoftware
Please send cash/cheque/P.O. with order for fast despatch (SAE only for full details). Send off now to:
DoSoft (Dept Y), 2 Oakmoor Ave, Blackpool, FY2 0EE
UK Postage included. Europe add £0.75, or £2 if order includes Blank Disks. Overseas add £1.50 for Airmail, or £3.50 if order includes Blank Disks.

DoSoft

You'll Do it Better with DoSoft

● FAST DISK UTILITIES ● LOADERS ● 3-MIN DISK COPY ● FAST DISK FILE COPY ● FAST FORMAT ●

MEGA NEWS



Ariolasoft, who seem to be taking over the world as new games, Touchdown, Floyd the Droid, and so, and, of course, other software too flood out, have been generous (they can afford to be, Ed). They know we admired their football game 'Touchdown' and they've kindly offered CCI readers 10 copies in addition to the one now gracing the wall of CCI's office, for the first ten CCI readers who can name the last three winners of the top US football game — give us the name of the game too. Entries by October 15th (on a postcard please) to 'Touchdown' Competition, c/o CCI.

The Bristol Wine Festival seems to have become the temporary home of Arcana Software. After numerous attempts to get through to their offices and being answered by the festival, we gave up for the day.

YAKKITY, YAKKITY YAK

IRIDIS-ALPHA the all-action arcade strategy shoot-em-up for the C64 by Jeff Minter is set to smash onto the market on 27 August 1986.

Featuring spectacular bi-directional scrolling, breath-taking playing speeds and clammering sound effects, IRIDIS-ALPHA looks destined to follow other Minter offerings to the top of the software charts.

And in a surprise move the game will be manufactured and distributed by top games house Hewson under a new Hewson-Llamasoft label establishing a link between two of Britain's most respected software names.

Jeff Minter, winner of innumerable software awards, made his name as a top games author with clasics like Sheep in Space and Revenge of the Mutant Camels. His latest releases include the compilation, Yak's Progress.

IRIDIS-ALPHA for the Commodore 64 from Hewson-Llamasoft is available on 27 August, price £8.95 on cassette, and £12.95 on disc.

Graphic Adventure Creator Competition

To celebrate the launch of GAC, CCI are giving away FIVE copies as prizes in a great competition.

To enter, simply answer the five questions below, send them to CCI on a postcard with your name and address (block caps please!)

Entries to: **CCI, 40 Bowling Green Lane, London EC1R ONE**

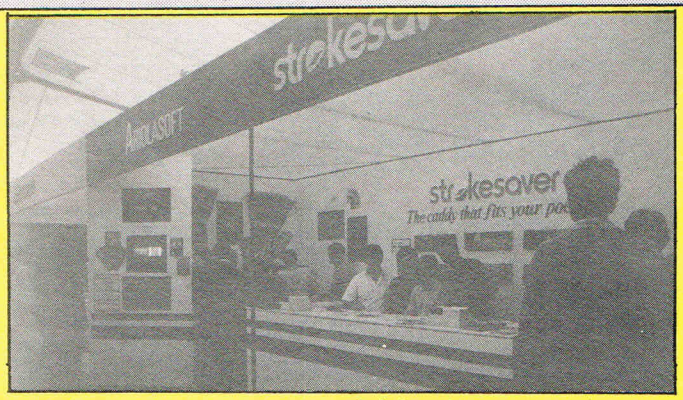
Closing date: **15th Sept.**

Name 3 graphical adventures on the 64 from different companies

Name Infocom's one and only adventure with graphics

Name 3 superheroes who feature in graphic adventure

Who produces The Graphic Adventure Creator?



Ariolasoft's golf game score at the Open

Open Golf games

Ariolasoft (what again? Ed.) are grabbing the headlines with their golf construction set game. They set up a special stand at the British Open Golf Championship at Turnbury, Scotland to let the world's top golfers, and the crowds who came to see them, try out the successful golf computer game. It had a very warm welcome especially from the younger players and spectators. Some seemed to find it more exciting than the Open itself. We hear that Ariolasoft might be getting the winner himself to practice with the package.

Correction

The Audiogenic Paintbox design package is £9.95 and not £6 as incorrectly stated in last month's magazine.

U.K. Soft Centre

COMMODORE SOFTWARE SPECIALISTS

C128		C128
C128 BASIC Compiler		47.00 d
DBASE II	NEW	110.00 d
Micro Clerk (Accounts Package)		89.50 d
New Paperclip (WP)	NEW	42.50 d
Superbase 128		87.50 d
Superscript 128	Special	67.50 d
Swift Spreadsheet 128	NEW	22.50 d
Viza Write Classic 128		87.50 d

C64 BUSINESS		C64
First Base 64 (Database)		32.50 d
First Word 64 (Word Processor)		32.50 d
Home Accounts	Special	15.00 d
Office Mate* (Database & WP)		12.00 t
Swift Spreadsheet 64		22.50 d

C64 EDUCATIONAL		C64
Donald Duck's Playground* (4-9yrs)		8.50 t
French Mistress A and B (each)		7.95 t
German Master A and B (each)		7.95 t
Introduction to BASIC Part 1*	Special	9.95 t
Kermit's Story Maker* (4-9yrs)		8.50 t
Up and Add 'em (3-7yrs)		8.75 t

C64 UTILITIES/GENERAL		C64
CAD 64* (Computer Aided Design)		12.75 t
Graphic Adventure Creator*	NEW	22.00 t
Jetpack BASIC Compiler*		12.75 t
LASER Basic*		17.50 t
LOGO	Special	19.95 d
PASCAL 64 (Language)		32.50 d
Rainbird Music System — Basic		15.95 d
Rainbird Music System — Advanced		36.00 d

C64 FLIGHT SIMULATORS/WAR GAMES		C64
Acro Jet*	NEW	8.50 t
Battle of Britain*		8.50 t
Crusade in Europe*	NEW	12.75 t
Flight Deck*	NEW	8.50 t
Germany 1985*	NEW	8.50 t
Knights of the Desert*	NEW	8.50 t
Silent Service*		8.50 t
Solo Flight Plus*	NEW	8.50 t
Tigers in the Snow*		8.50 t
747 Flight Simulator* (Doc Soft)		10.75 t

SPECIAL — SUBLOGIC FLIGHT SIMULATORS AT LOW PRICES.

C64 ADVENTURES		C64
Alter Ego (Male or Female)	NEW	22.50 d
Alternate Reality Pt 1	NEW	18.00 d
Ballyhoo by Infocom	NEW	27.50 d
Borrowed Time		13.75 d
Hitch-Hiker's Guide to the Galaxy		24.50 d
Law of the West*	NEW	8.50 t
Lord of the Rings*		13.75 t
Murder on the Mississippi	NEW	12.95 d
Planetfall by Infocom		20.95 d
Price of Magick	NEW	8.50 t
Questprobe*	NEW	8.50 t
Snow Queen	NEW	8.50 t
Sorcerer by Infocom		22.50 d
Spellbreaker by Infocom	NEW	27.50 d
Suspect by Infocom		27.50 d
Ultima III	Special	15.00 d
Zork I, II or III		10.75 d

C64 ACTION/GAMES/SPORTS		C64
Colossus Chess 4.0*		8.50 t
Ghosts and Goblins*	NEW	8.50 t
Infiltrator	NEW	12.95 d
Knight Games*	NEW	8.50 t
Leader Board (Golf)*	NEW	8.50 t
PSI 5 Trading Company*		8.50 t
Raise the Titanic	NEW	8.50 t
Scrabble*		11.00 t
Spindizzy*	NEW	8.50 t
Tau Ceti*	NEW	8.50 t

C16 — PLUS 4		C16 — PLUS 4
Frank Bruno's Boxing	NEW	7.00 t
Home Office (Database & WP)		9.75 t
Hyperforce	NEW	6.50 t
Introduction to Basic Pt 1	Special	13.00 t
Kung Fu Kid		6.50 t
Paintbox (Drawing Utility)		9.00 t
Reach for the Sky		6.50 t
Steve Davis Snooker		7.50 t
Strange Odyssey	Special	9.50 c
Viduzzles (Jigsaw game)	Special	9.50 c

PLUS 4 only		PLUS 4
ACE (Flight Simulator)		8.75 t
Mercernary	NEW	8.50 t
Saboteur	NEW	7.50 t

JET the brilliant new F16/F18 Fighter Simulator. Disc only £42

FLIGHT SIMULATOR II Without doubt the best Flight Simulator on Commodore. Cass. £35 Disc £44

Extra SCENERY DISCS that are compatible with both JET and FSII £19.50 each.

t = cassette tape d = diskette c = ROM cartridge * = Disc version available

HUNDREDS MORE TITLES AVAILABLE - ALL AT DISCOUNT PRICES

Please send stamp for our complete list (state which computer).
Please include 50p for Post and Packing for all orders less than £20. Outside UK please include £1 plus 75p for each additional item on all orders. Send Cheque, Eurocheque, Sterling money order or UK Postal Order with order to:

UK SOFT CENTRE LTD (CCI)

PO BOX 36
DUNSTABLE BEDS LU6 2NP

TELEPHONE
DUNSTABLE (0582) 607929

TOP SECRET

FOR YOUR EYES ONLY

SSSHH!

(Is there anyone looking over your shoulder? If so, close the magazine quickly!)

No-one must know — don't tell a soul what is about to be revealed! This is the most awaited game ever! And we found it! As usual a CCI exclusive! Shh! Whisper who dares!

Marble Mad ness

(What? Speak up! Ed)

MARBLE MADNESS on the AMIGA! Yes, that's so astonishing, we'll say it again. Marble Madness, probably the most admired and marathon played arcade game of all time is now on the Commodore AMIGA — and CCI have found its secret hideout and played it. And we did it just for you dear reader.

C.C.I. caught up with MM at a secret location in a European country — we dare not reveal which, for many lives may be at stake! Drive carefully the life you save may be your own! (What's that got to do with it? Ed) You see here, on this very page, made possible by your ever faithfully CCI agent who risked his all, life, limb, toupee and shin pads, accompanied by CCI's fearless staff writer, tiny Julian Rosen to smuggle them out through the defences back to the magazine in the last dying minute before CCI went to press near the small village of Bobcollyer in darkest Cornwall.

'A BIT ODD'

Julian, normally tight lipped and laconic, was and is communicative as an Easter Island statue, almost delirious with wild excitement at this unique experience of playing with his own hands, (would he play with someone else's? Ed. Maybe I'd better re-phrase that…, this extraordinary game. He found it in his immortal words: 'Exactly the same as the Arcade version; though it was a bit odd playing it with a mouse. Yes definitely a bit odd I think, still I quite enjoyed it!! Amazing, Julian's enthusiasm!

You could call this a pre-preview but I promise you that MM will be properly reviewed in depth (in all it's 1000 levels!) as soon as it is complete. In the meantime, cringe other mags, eat your heart out other organs ('eat your heart out other organs'?! What sort of offal writing is that? Ed) CCI — the magazine with more exclusives that there are fluffy lollipops in Ludlow — has done it yet again! A special cheer (silent please, we don't want anyone to hear) for Julian Rosen and A. N. Other for their extraordinary scoop. The game of a lifetime — Marble Madness on the Amazing AMIGA!

They said no-one could find MM (If any other mag said they'd done it, we wouldn't believe them! Nor would you, we're sure). But CCI found it…They said no-one could play MM on the AMIGA. CCI played it…They said no-one could get back alive to tell the tale. We're here to prove them wrong. Vive CCI!

Dear CCI reader, remember we did it all for you, for you alone, just for your eyes only. Now please destroy this magazine before any one else finds out. (What? You've lost your marbles! You're fired! Ed).

'Superb Winter Events'

Exclusive!

Winter Events from Anco (preview)

There is some really top quality software coming out on the C16 now, and Anco seem to be at the forefront of the C16 field. Winter Events is a superb example of just what this machine can do. It is comparable with some of the software still being released for the 64, and would easily have passed off as a 64 game 18 months ago.

The graphics, especially for a C16, are outstanding, fully utilising the machine's graphical capability. This was a preview version and therefore not complete. The game lacked Downhill and Slalom, but by the time you read this, they should have been implemented. Judging by the rest of the events, they should be terrific.

The events available are Ski Jump, Biatholon, Bob-Sleigh, and Speed-Skating. Bob-Sleigh was definitely one of my favourites, depicting the course very nicely in smooth scrolling graphics. You have to watch the speed of the sleigh, and ensure that it doesn't start tumbling on the banks. You have to be sharp as a scalpel to avoid crashing into the walls. In Ski Jump, when you jump you are shown a picture on the right displaying what your posture ought to be, and a picture on the left displaying what you actually are doing. For the first few times, these were wildly different in my case, but once I got the hang of it it got easier, and became more of a challenge than an impossibility.

In Biatholon you move your joystick from side to side to move your man, and up and down to make him descend or ascend. The graphics here are easily equal to the 64's, and I think this event is actually better than the same event in the 64's Winter Games from Epyx.

This really is an incredible program. I must admit I never imagined that the C16 was capable of such good software, and I'm pleasantly surprised. Sometimes, it is nice to be proved wrong! It may still be warm weather but winter events will freeze you to your Commodore!

DEACTIVATORS FROM ARIOLASOFT

Deactivators has the rare privilege of being one of the very few original releases in a games world where tomorrow's game is yesterday's game with a few more sprites and sound effects added. Written by Ariolasoft and Tigress, it is scheduled for a September release and features some good sound tracks and nice if a little simple, graphics. Music of course can always eventually start to get on your nerves, so a 'music off' option has been thoughtfully included.

Deactivators is infuriatingly difficult, but luckily the addictive element ensures that you definitely won't lose interest in this game for a while. You control one of several droids, and to complete your task you'll have to switch control from one to the other at times. The task at hand is to deactivate a building, chucking out all the bombs you find through the exit. As only one of the droids can actually reach the exit, you have to throw the bombs from droid to droid until it can be reached.

The display shows the room you are in, and the adjacent room along with their exits. To get to the next room, you just walk through the exit, or fall through a hole in the floor (pretty tough droids — Ed). To get around the building, you can either walk from room to room or use transporters. Some of these transporters may not be active, so you'll have to find a circuit board and plug it into the main computer. You may also find yourself in the dark in several of the rooms at higher levels, and as with the transporter you must find the circuit board to switch on the lights.

Each room actually has its own gravitational field, so when throwing a bomb out of the exit, or to another droit, you must be careful to throw it at the right angle!

Once you get into the higher levels, things become very, very difficult. Rooms get rotated by 90, sometimes 180 degrees, which has the effect of totally disorientating you.

This should be a real hit. Although it doesn't feature stupendous graphics, it has incredibily addictive gameplay which of course is the most important part of any program. It won't be out for a few weeks, but when you see it I'd recommend you buy it. We rate it really Mega level.
Price: Not fixed, but probably £9.95 and £11.95 c&d.

WINTER EVENTS

C16/PLUS 4

Compete in the six thrilling events - Biathlon, Bobsled, Ski Jump, Slalom, Down Hill and Speed Skating.

The events start with opening ceremony accompanied by thrilling music. One to four players can select the country they wish to represent. The events with some of the most stunning graphics seen on C16/PLUS 4 provide a perfect back drop as the chase for medals progresses. TURBO LOAD ensures that you don't get a chance to cool down between the events.

A QUALITY GAME FOR C16 AND PLUS 4 OWNERS

£7.95

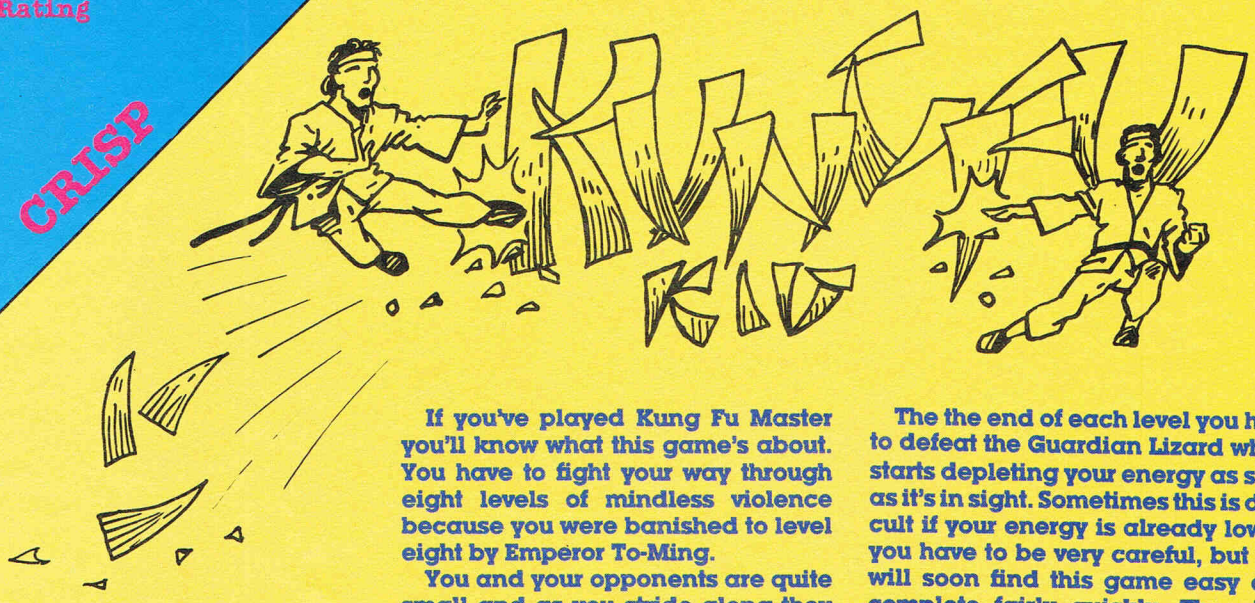
ANCO SOFTWARE, 4 WEST GATE HOUSE, SPITAL STREET, DARTFORD, KENT. DA1 2EH. Telephone: 0322 92513/92518

Mail Order: Payment by Cheque, P.O., Visa or Access.
24 Hour Credit Card Service: 0322 522631

MEGA REVIEW

CCI Rating

CRISP



KUNG FU KID

Along with Mastertronic and Anirog, Gremlin Graphics must be the most prolific makers of good C16 games and here they've come up with another.

If you've played Kung Fu Master you'll know what this game's about. You have to fight your way through eight levels of mindless violence because you were banished to level eight by Emperor To-Ming.

You and your opponents are quite small and as you stride along they come whizzing towards you from behind as well as in front. You can punch, kick or jump over them and this is quite easy on the first level. But as you progress daggers, swords and things I call ghoulies come racing at you as well as the occasional Chinese Star.

The the end of each level you have to defeat the Guardian Lizard which starts depleting your energy as soon as it's in sight. Sometimes this is difficult if your energy is already low so you have to be very careful, but you will soon find this game easy and complete fairly quickly. Though it may lack lasting appeal, we liked this game. It has a lot going for it.

Price: £6.95
Graphics: * * *
Sound: * * *
Playability: * * *
C.C.I. Rating: Crisp

CCI Rating

DODGY

Jack Attack

JACK ATTACK

I'd heard some very ugly rumours about this game and looked at the prospect of reviewing it with some trepidation. But I am glad to say that it isn't as bad as I expected it to be, though it is far from excellent.

The general idea of the game is to squash nine balloons which float down from the top of the screen. You can do this by jumping on them or by squashing them between blocks. Unfortunately they can do the same to you and can also jump higher than you.

The first screen is easy – just made up of blocks – but on further screens there are platforms, and pods of water in which you drown.

There is a time limit to complete each screen and when you do, the remainder of time is turned into a bonus. If you don't complete the screen in time though you aren't penalized. When you run out of time, the platforms on your screen dissolve and you must watch out for falling blocks.

The graphics on this game are nothing special, but I found them cute and colourful, this sound is – to coin a phrase – 'rubbish' and not really worth a mention.

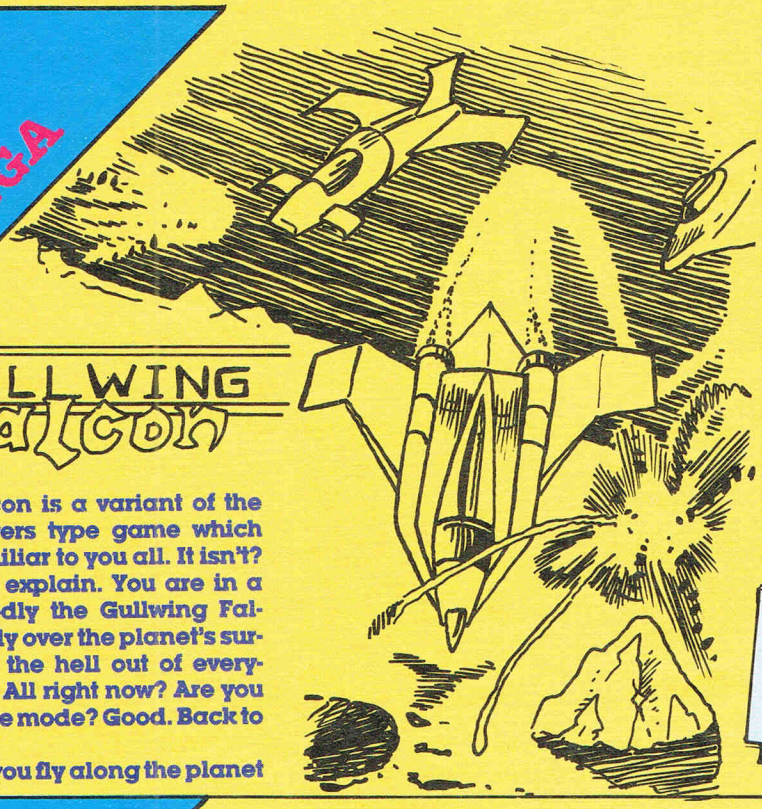
Overall this game is fun to play but gets too frustrating at times. It is not one I'd recommend unless you are buying it for younger gamesters.

Price:- £6.95
Graphics: ★ ★ ★
Sound: ★
Playability: ★ ★ ★
C.C.I. Rating: Dodgy

MEGA REVIEW

CCI Rating

MEGA



GULLWING Falcon

Gullwing Falcon is a variant of the old Buck Rogers type game which should be familiar to you all. It isn't? Okay then I'll explain. You are in a ship, supposedly the Gullwing Falcon, and you fly over the planet's surface blasting the hell out of everything in sight. All right now? Are you into aggressive mode? Good. Back to the review.

Like I said, you fly along the planet surface and the mountains in the background realistically swing from side to side. As you fly though, giant pillars zoom into view and you can either avoid them or try to go through them. This is tricky at first but you soon get used to it. Then come the enemy, lots of them. They attack from all sides and lurk behind the pillars ambushing you; hurling rockets when you least expect them.

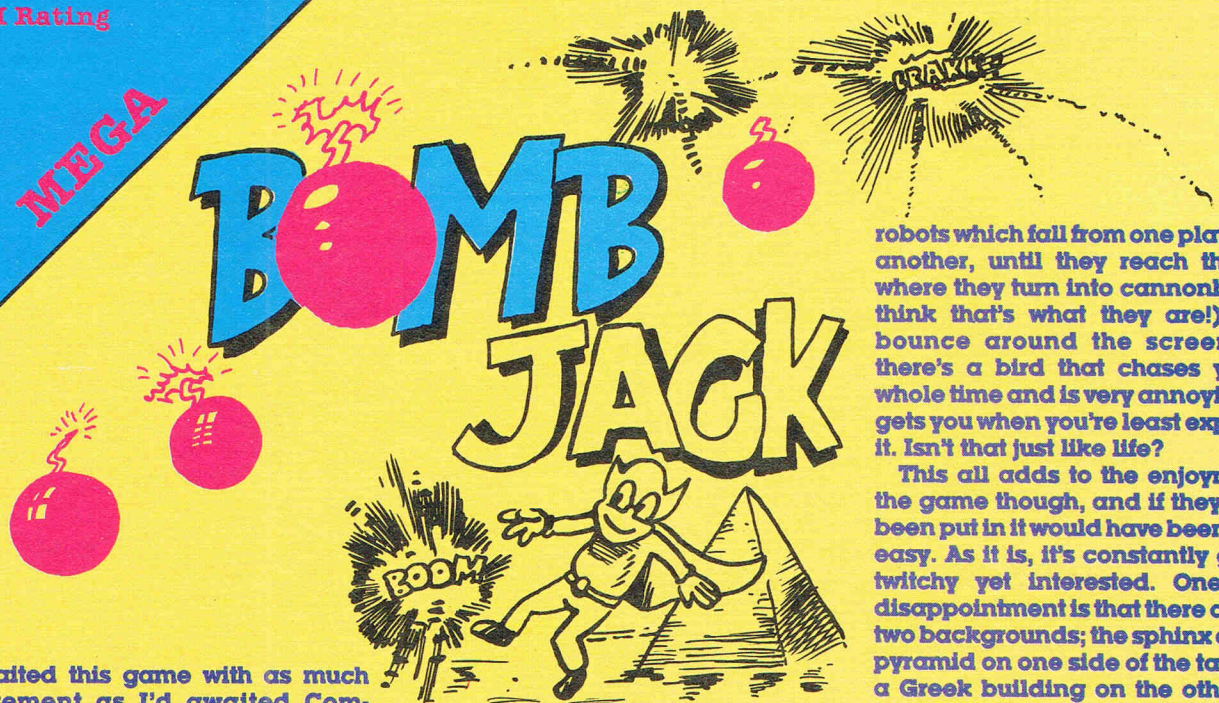
You can fly at Warp 1 which is fast, up to Warp 63 which as you might imagine is totally impossible.

The game boasts impressive pseudo 3D graphics and very good sound. It is incredibly addictive with that 'just one more go' hold on you, and with the variety of ships to blast and ninety-nine levels to complete it should be a long time before you get bored with this one.

Price: £6:95
Graphics: ****
Sound: ****
Playability: *****
C.C.I. Rating: MEGA

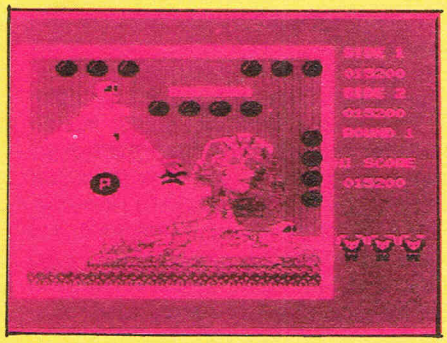
CCI Rating

MEGA



I awaited this game with as much excitement as I'd awaited Commando, and I'd been disappointed with that. So when it arrived I tried not to build my hopes too high. Now I've played it all I have to say is 'great work, Elite, you've made an excellent conversion'. Before I go raving on about how good this game is, I'll give you a basic run down of how it works.

You are Jack and you must collect bombs which are dotted around the screen. There are platforms to walk on and you can also do ultra high jumps that make it seem as if you were flying. You can hover as well, which is a great help, To hinder your progress in collecting the bombs are robots which fall from one platform to another, until they reach the floor where they turn into cannonballs, (I think that's what they are!) which bounce around the screen. And there's a bird that chases you the whole time and is very annoying as it gets you when you're least expecting it. Isn't that just like life?



This all adds to the enjoyment of the game though, and if they hadn't been put in it would have been far too easy. As it is, it's constantly got you twitchy yet interested. One slight disappointment is that there are only two backgrounds; the sphinx and the pyramid on one side of the tape and a Greek building on the other side (I'm not sure it's Greek really though it looks kind of Greek!) This is not a problem though as all the platform layouts are different, so there is plenty of variety.

Well done again Elite, you seem to be spotting one hit after the other.

Price: £7.95
Graphics: ****
Sound: ***
Playability: *****
C.C.I. Rating: Mega

MEGA REVIEW

CCI Rating

MEGA

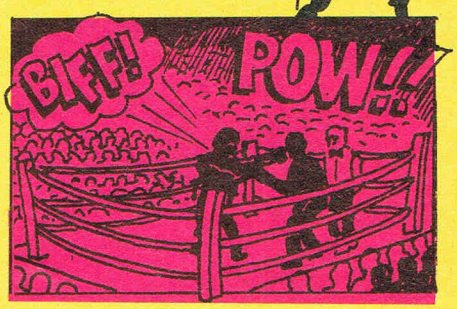
Frank Bruno's BOXING

BETTER LUCK NEXT TIME FRANK!

CCI.

At last big software firms are taking notice of the C16. What with World Cup Carnival Bombjack and others planned for release, I'm starting to get confused. Where there was virtually nothing, now there is a flood. Does somebody up there listen to CCI? Now here's Frank Bruno's Boxing from the Elite stables.

This game is very similar to the arcade game 'Punch Out' where you have a view of the boxers from behind your man. There are three opponents that test your skill to the limit, the first and, arguably the easiest is Canadian Crusher who lets rip with vicious right crosses all the time and delivers a knock out punch every time you try to deck him.



The next on the list is the Chinese boxer Fling Long Chop (who thought that name up? He should be for the chop!) who seems to think he's playing Thai boxing, as he likes to knock you out with kicks to our head. (Nice guy eh?–Ed.)

The last and the hardest is Andra Puncheredov, a mean-looking Russian with a very hard head who likes to butt you. He bobs and weaves to the left and right and is a real tough customer to beat.

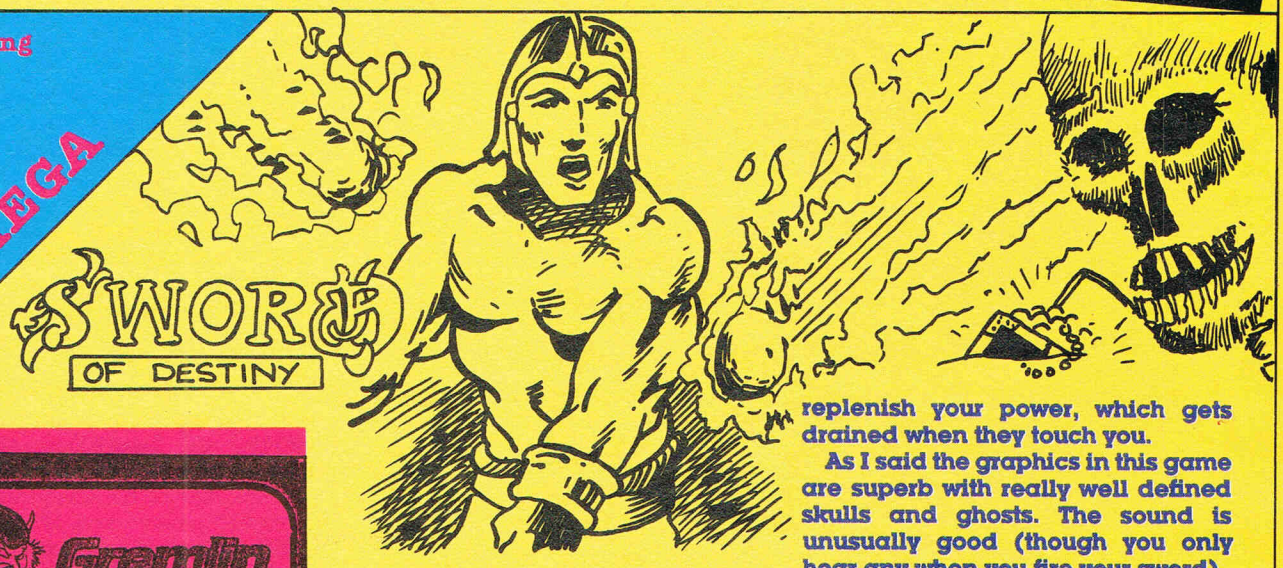
What I want to know is where is the ref? He must be blind to miss all the fouls I get. I feel brused all over!

This game is a good buy because each boxer will be pretty hard to beat as you fight each 3 times before progressing to the next boxer. Ref! We wuz robbed. It's a knockout!

Price: £6.95
Graphics: ★★★★
Sound: ★★★
Playability: ★★★ (punching gets tedious)
CCI Rating: MEGA

CCI Rating

MEGA



Gremlin Graphics

SWORD OF DESTINY

In this game you are Kelok, a master warrier whose heart has been stolen by the evil warlock Xorphas!! That sounds impressive doesn't it? That's what the game is too, with impressive graphics, sound and gameplay.

The object of the game is to find your heart and to do this you must go into the abyss of death and collect the flashing pieces of treasure lying around. Sometimes they are in inaccessible places and to help you get at these are hot air flues which bounce you up onto the platforms where they lie. This opens up other parts of the abyss for you to explore.

To hinder you on your mission are some evil looking ghosts, bats and other nasties. You can shoot these to get them out of the way and also replenish your power, which gets drained when they touch you.

As I said the graphics in this game are superb with really well defined skulls and ghosts. The sound is unusually good (though you only hear any when you fire your sword).

The only really annoying feature about this game is the way you get pushed off a platform after you've spent ages bouncing up there. If you have the money this is the game to get.

Price: £6.95
Graphics: * * * *
Sound: * * *
Playability: * * * *
C.C.I. Rating: Mega

MEGA REVIEW

CRISP

MYRIAD C16

Myriad was first written on the Vic20 (you remember the 'Volks Computer') by the now defunct software house, Rabbit software. Considering the original program was written years ago, on a computer with nowhere near the power of the C16, Atlantis' attempt to provide a C16 conversion falls just short of being pathetic. The original Vic version was a best seller, and was great to play. This new C16 version, although it to a certain extent retains the fast action and playability of the older game, contains no enhancements, and is if anything graphically inferior.

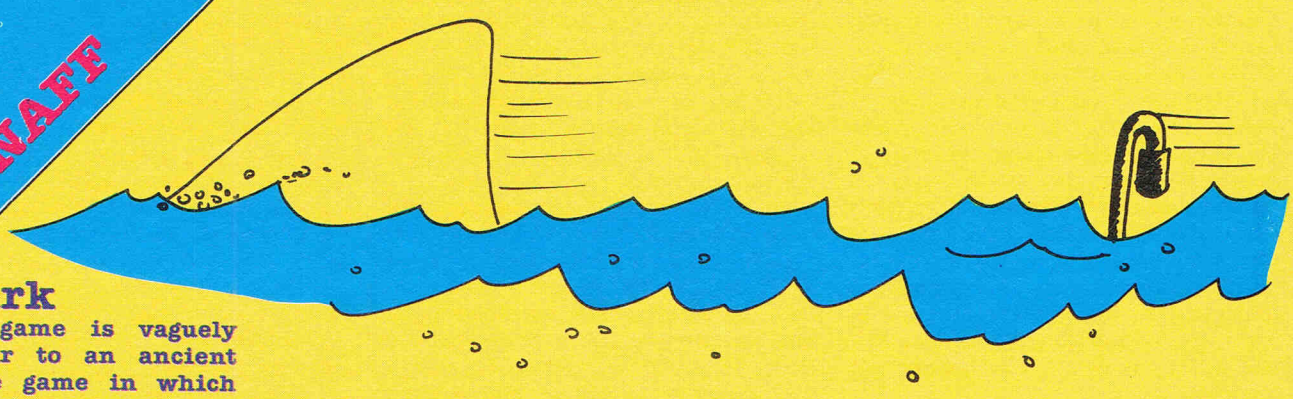
The blurb on the packaging questions whether 'your laser cannon and shield will be enough to destroy the myriad of aliens as you voyage peacefully through the Cosmos'. Well, it certainly isn't peaceful, and if you don't have a joystick and have to use the keys, then the answer is most certainly no!

Sound effects are about on par with the Vic version; not too bad. Graphics are probably not quite as good. They are jerky, small, and flicker pretty badly. On the other hand, the fast game action makes it a challenge to play, and also has the 'one more go' compulsion that is the hall mark of any good shoot 'em up. Even though Myriad is not technically superb, it is great fun to play for a time, especially if you use the two player option, and at only £2.99 it is pretty good value. If you ever had a Vic, then this'll being back memories...

Price: £2.99
Graphics: ★ ★
Sound: ★ ★ ★
Playability: ★ ★ ★
CCI Rating: CRISP

CCI Rating

NAFF



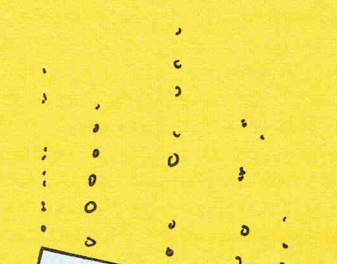
Shark

This game is vaguely similar to an ancient arcade game in which you had to torpedo ships from your submarine, with obstacles such as mines getting in the way. In Shark, you play the part of a diver equiped with a harpoon gun with which you must try to kill the shark. Someone has very nicely painted a large cross on the shark, so you know where to shoot it.

You move your diver from left to right, and you can shoot at the shark through gaps in the deck of a sunken ship. Unfotunately, your diver looks more like an InterContinental Ballistic Missile, and the shark like something that took three minutes in a coffee break to draw. There is no animation whatsoever, and movement is somewhat jerky.

When you have successfully hit the shark, you move on a level. In higher levels, yellow man (ICBM?) eating fish, harpoon blocking eels, jellyfish that have an amazing ability to move down, teleport themselves a few lines up a couple of pixels along and move down again, and squid which behave much like the jellyfish, apart from moving diagonally, try to prevent you from killing the poor unsuspecting shark.

I'm afraid that this is one of the worst games I've played on the C16. It is boring, has no sound effects, and displays awful graphics. However, it does cost only £1.99, so I suppose it is worth a few hours play.



Price: £1.99
Graphics: **
Sound: *
Playability: ***
CCI Rating: NAFF

THAT SINKING FEELING

Fighting Words

Jeff Minter speaks out.

Back again. I just had a really heavy day trying to explain to my VIC-II chip that I wanted to do some vertical scrolling, but it seemed to disagree with me a lot of the time, it just wanted to have fun glitching and altering the screen map according to its own silicon whims. Ah well, such are the trials and tribulations of being a game programmer.

A rather amusing thing happened during the development of my new game, too. (See Special Preview this issue Ed.) I'm teaming up with Hewson's for the distribution of this one, and naturally they took an interest in the game's progress as I was writing it. They looked at it and noticed that it was a little ferocious (my games usually are: not the sort of stuff for wimps; I like 'em mean and nasty) and asked me would I please put in a nice, easy 'idiot level' that anyone could play? This I duly did, but whereas I'd thought I was doing this so that young kids could play the game, I later found this to be untrue: it wasn't the kids that Hewson were worried about (I've seen 8-year-olds who could blast the pants off me!), but rather the software distributors who were in need of the dummkopf mode. It seems that if they can't understand it within five minutes of booting it they won't buy it. Strikes me that we're going to have intense amounts of difficulty advancing game design at all, if this is the case. If you program something wonderful, new and innovative that takes more than five minutes to learn, you're well knackered, 'coz noone will get to buy it, 'coz it won't get distributed.

Maybe I'm too hard on distributors... but maybe I'm not. I'm still waiting for one of them to prove me wrong.

Anyway, they shouldn't have too much trouble getting to grips with my new one. True, the control system takes a little learning, but only about five minutes, not the couple of weeks you needed for Mama Llama. Basically, I've been doing my bit to end the chronic shortage of really fast blasters on the C64... the bullets fly and the creeps fry. Just the way I like 'em.

I must say I like the look of the new C64 that Commodore are releasing in America... looks well tasty, like the C128. Always did approve of the starship-enterprise look of the 128. That GEOS operating system looks mighty fine too, very Mac-alike with all those icons. I reckon we're seeing the death of old style operating systems now; within a couple of years everyone will be on windows and mice and will have forgotten all about the old days of load "*",8'. Maybe by then Commodore will even have come up with a decent disk drive. When I got my 128D I thought that, since it had a built-in version of the new 1571 drive, I could expect loading times comparable to normal drives; but no, all you get is 'pretty slow' loading instead of the 'absolutely amazingly unbelievably you-could-get-it-in-faster-by-poking-the-bytes-in-from-BASICLY slow' loading of the 1541. Even the Amiga's not immune from all this; my demo copy of Musicraft can spend up to 30 seconds just fetching the directory of available instruments. Mind you, to be fair to the Amiga, it should be said that this is a function of the operating system rather than the drive hardware. On Amiga disks you don't get a discrete directory track; the OS has to hunt around all over the disk, fetching each individual file name from wherever it may be. I'm sure this must have some advantage over the way that GEM does it on my ST, but whatever that advantage is, it sure ain't speed.

I'm still waiting for a piece of software to come along for the Amiga that'll really blow my brains out and convince me it's worth all that money. So far I've seen some very pretty stuff, and some fairly nifty games, but still nothing that my trusty ST couldn't do given some decent programming. (Apart, of course, from sound; I conceded absolutely to the fact that the ST has a horrible, wimpy little sound chip and the Amiga has an amazing, powerful, 4-channel, stereo sampling sound system. Mind you, for the price of an Amiga I could get myself a 520ST and a DX-7 synth.)

No, what I really want to see is a piece of programming that really makes the Amiga work. The sort of thing you'll take one look at and then go out and sell your body on the streets and your soul to the Devil to get enough money to buy the machine it runs on. ArcticFox could have been getting there if it had been better programmed; as it is it suffers from a classic case of cup-of-tea-between-frames, making it very difficult to control. Shame. Maybe the much-vaunted Marble Madness will be the program which finally convinces me. I hope so, 'coz I dearly love the game, and I'd like something to show me mates how good the Amiga really is. You see, I'm not really anti-Amiga or anything, just a little disappointed at that whopping price tag...

Enough of this Amiga-vs-ST stuff. I've travelled that road before. Next month I want to be telling you all how brilliant Marble Madness is and how I'll never be able to look my ST in the screen again. Please EA...

On the '64 front, I've been looking at some of the new stuff that's just coming out, like Ghosts and Goblins and Green Beret. I was impressed with Green Beret especially, a tidy piece of programming, and faithful to the arcade original, i.e. I was useless at it in the arcades and I'm still useless at it on the home version. If only there was some way of operating the flame thrower without having to use my big toe on the space bar... I tried out a mate's version of Psi-5, but I think it may have been bugged, because although I specifically requested a large purple hairy weapons specialist named Yeela, I didn't get him (her?), I got someone else not nearly so good looking. Never mind. Me and my crew got vapourised in pretty short order anyway.

Speaking of getting vapourised, I liked Tau Ceti as well, especially the way you get shadows and highlights on all the objects as you fly around amongst them. Just don't take that jump pad to Centralis until you're absolutely ready or you'll end up with a hull full of holes.

Got fairly into Leaderboard golf, as well. It's instantly playable, and well-programmed, with the exception of one classic example of programmer's cop-out; if the ball lands very close to the edge of one of the islands making up the course, when the program goes to display the close-up view, it makes your new position very slightly offshore and just a little bit out in the ocean. To cover this eventuality the program thoughtfully generates a little oval island for you to stand on to take your shot. Obviously the program is slightly inaccurate when the ball lands close to the edge of a land mass, but that little island is such a neat little cop-out it just adds to the fun.

I shall finish now; more news and stuff next month but right now it's time for me to hit the sack. After one last game of Stargate, that is; I broke 200,000 yesterday and want to keep me hand in...

COULD THIS BE YOUR PROGRAM?

ARCADE
SIMULATION
STRATEGY
ADVENTURE

SPACE
SPORTS
WAR
ACTION

Is your program good enough to fill this spot?

Will your game be the next No. 1 hit?

Are you looking for **top** royalties?

Are you writing for leading computers such as Commodore 64/128, C16/Plus-4, BBC/Electron, Atari, Amstrad, MSX, Spectrum or any other 6502/Z80 Micro.

Answer YES to any of these questions and we would like to hear from you. Send your program tape or disc, together with full instructions for fast evaluation. Be sure to state your computer type, memory, peripherals used and your name, address and telephone number.

34 BOURTON ROAD GLOUCESTER GL4 0LE
Tel (0452) 412572

P.S: We are also looking for 6502/Z80 programmers for urgent conversion work.

Program

ADVENTURE UTILITIES

This looks like adventure month... We thought you might like some useful programmes' out for creating Adventures. Malcolm Sorbet has written these and they have gained applause here for their easy use. The program/utilities can be used individually or all together as one large module.

```
10 FORX=52105TO52202:READA:POKEX,A:NEXT
15 DATA32,225,203,133,253,165,51,72,165
20 DATA52,72,134,251,132,252,134,51,132
25 DATA52,32,225,203,133,254,104,133,52
30 DATA104,133,51,165,253,56,229,254
35 DATA144,46,141,208,3,238,208,3,162
40 DATA1,160,0,177,251,209,34,208,8,200
45 DATA196,254,176,18,56,176,242,232
50 DATA206,208,3,240,16,230,251,208,230
55 DATA230,252,56,176,225,138,168,169,0
60 DATA132,2,96,160,0,56,176,246,32
65 DATA253,174,32,158,173,32,163,182,96
70 REM*********************************
72 REM     INSTRING UTILITY CBM 64
74 REM*********************************
76 POKE53281,5:POKE53280,4:POKE646,0
78 PRINTCHR$(147):B$="ICE"
80 A$="AXE*JUG*CUP*IMP*ELF*ICE*ORB*EGG"
82 PRINT"THIS EXAMPLE OF INSTRING WILL"
84 PRINT"FIND THE WORD (ICE) FROM THE"
86 PRINT"STRING BELOW....PRESS KEY F1"
88 PRINT:PRINTA$:PRINT
90 GETX$:IFX$<>CHR$(133)THENGOTO90
92 SYS52105,A$,B$:REM FIND B$ POSITION
94 P=PEEK(2)      :REM P=START POSITION
96 P=INT(P/4)+1   :REM CALCULATE WORD NO
98 PRINT B$;".....IS WORD NUMBER";P
```

```
100 REM*******************************
110 REM A WORD WRAPPING UTILITY FOR
120 REM THE COMMODORE 64 WHICH WILL
130 REM FORMAT YOUR STRINGS AND END
140 REM THEM WITH A FULLSTOP. AND THEN
150 REM CLEAR A LINE FOR THE NEXT ENTRY
200 REM*******************************
210 POKE53280,14:POKE53281,5:POKE646,0
220 SA=52000:EA=52102:FORX=SATOEA
230 READA:POKEX,A:NEXT:PRINTCHR$(147)
240 B$="TO FORMAT THE SENTENCE BELOW, PLEASE PRESS KEY F1":SYS52000,B$
250 SP$=CHR$(32)
260 A$="WHY SPOIL YOUR SCREEN DISPLAY WITH OVERLAPPING WORDS WHEN YOU CAN USE"
270 A$=A$+SP$+"A FAST FORMATTING UTILITY WHICH WILL PREVENT WRAPAROUND"
280 PRINTA$;CHR$(13)
290 GETX$:IFX$<>CHR$(133)THENGOTO290
300 SYS52000,A$
310 B$="IT LOOKS BETTER, AND YOU CAN ALSO FORMAT ANY PART OF IT, LIKE THIS"
320 SYS52000,B$
330 SYS52000,MID$(A$,54,42)
340 PRINTCHR$(13):END
350 REM*******************************
500 DATA32,253,174,32,158,173,32,163
510 DATA182,133,253,165,51,72,165,52,72
520 DATA134,251,132,252,160,1,132,211
530 DATA136,196,253,240,51,177,251,162
540 DATA39,228,211,208,35,201,32,240,12
550 DATA169,20,32,210,255,136,177,251
560 DATA201,32,208,244,140,208,3,169,13
570 DATA32,210,255,162,1,134,211,172
580 DATA208,3,200,76,62,203,32,210,255
590 DATA200,196,253,208,205,169,46,32
600 DATA210,255,169,13,32,210,255,169
610 DATA13,32,210,255,104,133,52,104
620 DATA133,51,96
```

```
100 POKE 53281,14:POKE53280,5:POKE646,0:PRINTCHR$(147);"PLEASE WAIT WHILST"
101 DIMC$(85),B$(100),A$(170),T$(170):PRINT"THE WORD TABLES ARE STORED"
102 GOSUB134:PRINT"AND THE M/CODE DATA.":FORX=49152TO49918:READA:POKEX,A:NEXT
107 PRINTCHR$(147);"MAKE A COPY OF THE WORDS AND NUMBERS.":PRINT:PRINT
108 PRINT"TO ALTER A WORD JUST STOP THE PROGRAMME"
109 PRINT"AND CHANGE THE RELEVANT DATA":GOSUB123:PRINTCHR$(147);"DIVIDER WORDS"
111 FORX=1TO15:PRINTX,C$(X):NEXT:GOSUB123:PRINTCHR$(147);"VERB WORD LIST."
112 T=20:FORX=1TO100:PRINTX,B$(X):IFX=TTHENGOSUB123:T=T+20
113 NEXT:PRINTCHR$(147);"OBJECT WORD LIST":T=20:FORX=1TO170:PRINTX,A$(X)
114 IFX=TTHENGOSUB123:T=T+20
115 NEXT:GOSUB123
116 REM*********************************
117 GOTO 312:REM TEST INTERPRETER
122 REM*********************************
123 PRINT:PRINT"PRESS KEY (F7) TO CONTINUE."
124 GETA$:IFA$<>CHR$(136)THENGOTO124
125 RETURN
129 REM*********************************
130 REM   DIVIDER WORD LOOP AND DATA
131 REM*********************************
134 T$="":A=50943 :FORX=1TO15:READC$(X):T$(X)=C$(X):GOSUB218:NEXT:GOSUB220
136 DATAWITH,IN,ON,AT,TO,UP,BY,OVER,DOWN,INTO,ONTO,INSIDE,NEAR,FROM,UNDER
138 REM*********************************
139 REM   VERB WORD LOOPS AND DATA
140 REM*********************************
142 T$="":A=49919:FORX=1TO85:READB$(X):T$(X)=B$(X):GOSUB218:NEXT:GOSUB220
144 T$="":A=50174:FORX=86TO100:READB$(X):T$(X)=B$(X):GOSUB218:NEXT:GOSUB220
148 DATAN,S,E,W,U,D,SCORE,LIST,INVENTORY,I,HELP,H,LOOK,L,QUIT,Q
152 DATAGET,TAKE,DROP,EXAMINE,READ,CUT,CHOP,MOVE,LIFT,PUSH,PULL,GIVE,OFFER,BUY
154 DATASELL,RUB,POLISH,KILL,FIRE,SHOOT,BURN,CLIMB,THROW,PLAY,STROKE,PAT,EAT
156 DATADRINK,FEED,OPEN,SHUT,BREAK,SMASH,KICK,HIT,STEAL,BEND,RAISE,LOWER,MEND
158 DATAFIX,REPAIR,CROSS,INSERT,LOCK,UNLOCK,SPREAD,SCATTER,DIP,TIE,UNTIE,SAW
160 DATASTAB,WEAR,RING,KNOCK,FLY,PRAY,LISTEN,AIM,COVER,UNCOVER,LEVER,PRISE
162 DATABLOCK,SAY,ASK,TELL,SAVE,LOAD,DIG,BLAST,LIGHT,DUST,FILL,EMPTY,POUR
164 DATAHAMMER,MELT,PRESS,MIX,PUNCH,TURN,WAVE
167 REM*********************************
168 REM  OBJECT WORD LOOPS AND DATA
169 REM*********************************
170 T$="":A=50431:FORX=1TO85:READA$(X):T$(X)=A$(X):GOSUB218:NEXT:GOSUB220
172 T$="":A=50686:FORX=86TO170:READA$(X):T$(X)=A$(X):GOSUB218:NEXT:GOSUB220
176 DATAIT,ORB,PEN,GRAIL,EMERALD,MUD,SCEPTRE,PIN,FLUTE,AXE,WAND,SWORD,SHIELD
178 DATALAMP,ARROW,SPADE,GLOVES,CASK,MUG,MIRROR,WEEDS,TINDERBOX,BRANCH,BOW
180 DATAEGG,MAP,APPLE,LOGS,BOOK,ASH,CRUST,FEATHER,STOOL,SCYTHE,BALL,COBBLE,KEY
182 DATABAR,RAGS,TWINE,NAIL,HOOK,RUG,PHIAL,ROBE,WOOD,BONE,NET,DOUGH,FUR
184 DATAMOUSE,ELF,ROPE,HAG,POACHER,GUARD,HUNTER,KING,MONK,FRIAR,DWARF
186 DATATEACHER,KNIGHT,IMP,BEGGAR,ABBOT,MAGICIAN,CAT,DOG,SWAN,RAT,FOOT,HORSE
188 DATAROGUE,MIST,ICE,BOULDER,BRIDGE,HANDLE,DOOR,CRATE,BED,SLAB,ROOTS,POST
190 DATAFROG,PANEL,SPIKES,BOX,CHEST,CABINET,CHAIR,TABLE,COUNTER
192 DATARAFTERS,MESSAGE,NEST,WELL,CIRCLE,WINDOW,PIPE,FLAME,HEARTH,GATE
194 DATATHISTLES,GROUND,FENCE,MAYPOLE,YARD,WATER,ANVIL,COFFIN,POOL,VAT,BEER
196 DATASHED,TARGET,CAULDRON,TAPESTRY,VAPOUR,SENTRY,GRILL,DISH,ALTAR,NUMBER
198 DATABOARD,TREE,SIGN,JUG,BOTTLE,TORCH,LETTER,RULER,OGRE,DRAGON,SCREEN
200 DATACLUB,SPEAR,DIAMOND,JAR,COINS,GOLD,PIE,CAKE,FRUIT,NUT,HERMIT,FAIRY
202 DATANEEDLE,ORANGE,JADE,ARMOUR,HEN,DUCKS,TIGER,GARGOYLE,WITCH,COMB
204 DATA GIANT,CAVE,PASSAGE,VAULT,WALL,TRAIL,TUNNEL,CORRIDOR
206 DATA PALACE,WAX,FORGE,TOWER
208 REM*********************************
212 T$="AND":A=51199:GOSUB220:RETURN
218 T$(X)=T$(X)+CHR$(32)+CHR$(32):T$(X)=LEFT$(T$(X),3):T$=T$+T$(X):RETURN
220 CO=CO+1:FORX=1TOLEN(T$):POKEA+X,ASC(MID$(T$,X,1)):NEXT:RETURN
222 REM*********************************
224 REM        M/CODE DATA
226 REM*********************************
230 DATA 160,40,174,32,208,169,98,153,7,6,138,153,7,218,136,208,244,162,24,32
```

```
232 DATA 255,233,162,24,160,0,140,208,3,24,32,240,255,169,5,32,210,255,169,42
234 DATA 32,210,255,162,0,169,32,157,60,3,232,224,80,208,248,32,228,255,240
236 DATA 251,201,32,208,32,172,208,3,136,190,60,3,224,32,240,236,172,208,3
238 DATA 192,35,16,229,32,243,192,201,32,208,4,200,32,243,192,76,55,192,201
240 DATA 13,208,26,173,208,3,240,206,168,136,190,60,3,224,32,208,6,206,208,3
242 DATA 173,208,3,141,204,3,76,194,192,201,136,208,3,76,0,192,201,20,208,43
244 DATA 172,208,3,240,49,206,208,3,32,210,255,32,210,255,169,42,32,210,255
246 DATA 172,208,3,169,32,153,60,3,136,185,60,3,201,32,208,5,169,20,76,137
248 DATA 192,76,55,192,201,65,48,7,201,91,16,3,76,75
250 DATA 192,76,55,192,173,208,3,162,14,32,255,233,232,224,24,208,248,24,160
252 DATA 0,162,14,32,240,255,160,0,185,60,3,32,210,255,200,204,208,3,208,244
254 DATA 162,24,32,255,233,24,160,0,162,15,32,240,255,96,141,215,3,153,60,3
256 DATA 238,208,3,141,214,3,169,157,32,210,255,173,214,3,32,210,255,169,42
258 DATA 32,210,255,173,215,3,96,160,0,140,205,3,162,0,138,157,132,3,232,224
260 DATA 9,208,248,173,205,3,141,139,3,169,2,141,212,3,169,0,133,187,169,200
262 DATA 133,188,32,39,194,208,5,32,49,194,144,238,173,208,3,240,3,76,159,194
264 DATA 173,139,3,141,205,3,169,171
266 DATA 141,212,3,169,0,133,187,169,197,133,188,32,39,194,240,26,141,133,3
268 DATA 201,1,208,6,173,141,3,141,133,3,173,133,3,141,141,3,173,142,3,141
270 DATA 132,3,96,173,139,3,141,205,3,32,251,193,141,132,3,141,142,3,208,1
272 DATA 96,201,16,16,1,96,32,59,194,144,1,96,141,137,3,32,17,194,141,133,3
274 DATA 208,1,96,201,1,208,6,173,141,3,141,133,3,173,133,3,141,141,3,32,59
276 DATA 194,144,1,96,141,136,3,169,55,141,212,3,169,0,133,187,169,199,133
278 DATA 188,32,39,194,141,135,3,208,7,173,136,3,141,205,3,96,169,171,141,212
280 DATA 3,32,17,194,141,134,3,208,5,169,0,141,133,3,201,1,208,6,173,141,3,141
282 DATA 134,3,173,134,3,141,141,3,96,169,0,133,187,169,195,133,188,32,39,194
284 DATA 208,5,32,49,194,144,238,173,208,3,96,169,0,133,187,169,197,133,188
286 DATA 32,39,194,208,5,32,49,194,144,238,173,208,3,96,32,121,194,32,66,194
288 DATA 173,208,3,96,24,173,205,3,105,1,205,204,3,96,173,205,3,205,204,3,96
290 DATA 169,1,141,208,3,160,0,177,187,209,251,208,6,200,192,3,208,245,96,173
292 DATA 208,3,24,105,1,205,212,3,240,19,141,208,3,24,165,187,105,3,133,187
294 DATA 165,188,105,0,133,188,76,71,194,169,0,141,208,3,96,173,205,3,24,105
296 DATA 60,133,251,169,0,105,3,133,252,174,205,3,189,60,3,201,32,240,7,232
298 DATA 238,205,3,76,138,194,238,205,3,238,205,3,96,162,22,160,0,24,32,240
300 DATA 255,160,0,185,194,194,32,210,255,200,192,61,208,245,160,0,162,15,24
302 DATA 32,240,255,169,40,141,205,3,96
304 DATA 89,79,85,32,79,78,76,89,32,78,69,69,68,32,65,32,83,80
306 DATA 65,67,69,32,66,69,84,87,69,69,78,32,67,79,77,77,65,78,68,83,46,32,78
308 DATA 79,84,32,87,79,82,68,83,32,76,73,75,69,32,40,65,78,68,41,46
309 REM*********************************
310 REM        TEST INTERPRETER
311 REM*********************************
312 PRINTCHR$(147);"THE INTERPRETER DISPLAYS COMMANDS AS"
314 PRINT"A VERB NUMBER. AN OBJECT NUMBER. PLUS A SECOND OBJECT NUMBER.":PRINT
316 PRINT"YOU CAN SAVE THE INTERPRETER AND THE"
317 PRINT"WORD TABLES, AS A BLOCK OF MEMORY, JUST" "
318 PRINT"STOP THE PROGRAMME, AND TYPE GOTO 400.":PRINT
319 PRINT"PLEASE ENTER YOUR COMMANDS WHEN READY."
320 C=1:SYS49152:SYS49427
322 V=PEEK(900):REM VERB NUMBER
324 N=PEEK(901):REM 1ST OBJECT NUMBER
326 T=PEEK(902):REM 2ND OBJECT NUMBER
328 D=PEEK(903):REM DIVIDER NUMBER
330 L=PEEK(972):REM LENGTH OF INPUT
332 P=PEEK(973):REM PARSING POSITION
333 IFL>36THENC=5
334 PRINTCHR$(31);"COMMAND";C;
336 PRINTCHR$(144);"VERB";V,"OBJ1";N,"OBJ2";T
338 :
340 REM ON THIS LINE YOU WOULD GOSUB TO YOUR VERB REPLIES (ON V GOSUB 100,ETC)
342 :
344 IFC>7THENPRINT"THE DISPLAY AREA IS FULL":GOTO320:REM WHY SPOIL THE DISPLAY
346 IFL>PTHENC=C+1:SYS49432:GOTO322:REM DEAL WITH MULTIPLE COMMANDS
348 GOTO320:END
```

```
350 REM*********************************
352 REM SAVE INTERPRETER & WORD TABLES
354 REM*********************************
400 PRINTCHR$(147);"TO RELOAD THE CODE MAKE YOUR 1ST LINE"
402 PRINT"X=X+1:IFX=1THENLOAD'',1,1"
404 PRINT:FORX=52300TO52368:READA:POKEX,A:NEXT:SYS52300,49152,51204,01
406 DATA32,253,174,32,138,173,32,247,183,174,20,0,172,21,0,142,172,0,142,193,0
408 DATA140,173,0,140,194,0,32,253,174,32,138,173,32,247,183,174,20,0,172,21,0
410 DATA142,174,0,140,175,0,162,0,142,183,0,232,142,185,0,32,253,174,32,155,183
412 DATA142,186,0,76,237,245
```

```
2 REM*************************************
4 REM A TEXT SCREEN SCROLLING WINDOW
6 REM SUITABLE FOR AN ADVENTURE GAME
8 REM*************************************
10 POKE53281,5:POKE53280,4:POKE646,0
15 DIMA$(10):FORX=1TO10:READA$(X):NEXT
20 DATAONE,TWO,THREE,FOUR,FIVE,SIX
25 DATASEVEN,EIGHT,NINE,TEN
30 R=1:C=1:GOSUB90
31 PRINTCHR$(147);"ADVENTURE SIMULATOR"
32 PRINT:PRINT"COMMANDS ENTERED WILL"
33 PRINT"SCROLL UP TO LINE 11":PRINT
34 PRINT"COMMAND (LOOK) TO CHANGE ROOM"
35 PRINT:PRINT"YOU ARE IN ROOM ";A$(R)
36 PRINT:PRINT"PRESS * TO STOP"
40 SYS52203,11:REM SCROLL UP TO LINE 11
45 PRINT:PRINT"ENTER COMMAND";C
50 INPUT Q$:POKE199,1
55 GOSUB75
60 IFQ$="LOOK"THENR=R+1:GOSUB75:GOTO31
62 IFQ$="*"THENSTOP
65 PRINT"THE COMMAND IS ";Q$
70 C=C+1:PRINT:GOTO45
75 IFR<11THENRETURN
80 R=1:RETURN
85 REM*************************************
90 FORX=52203TO52287:READA:POKEX,A:NEXT
100 DATA32,253,174,32,158,183,142,167,2
110 DATA232,142,168,2,169,160,133,254
120 DATA160,0,132,253,32,15,204,169,224
130 DATA133,254,160,0,132,253,32,15,204
140 DATA96,177,253,145,253,200,208,249
150 DATA230,254,165,254,240,5,201,192
160 DATA208,239,96,169,53,133,1,172,167
170 DATA2,140,247,232,160,24,132,214
180 DATA162,0,134,211,96,174,168,2,32
190 DATA255,233,232,224,24,208,248,96
200 RETURN
210 REM SYS52276 CLEARS LOWER WINDOW
220 REM SYS52203,X (X=TOP ROW OF WINDOW
230 REM X MUST BE IN RANGE (1-24)
240 REM*************************************
```

SUPER DISKDOC

Bill Donald has examined in depth a Disk Editor. If you want to know what your actions do to the disk or your drive, read on.

SUPER DISKDOC REVIEWS

SUPER DISKDOC is a disk editor for use on all Commodore 8-bit hardware configurations. Before I go any further though it is probably a good idea briefly to mention what a disk editor is.

The floppy disk used by Commodore disk drives stores data from the computer on a flat, circular piece of magnetised material. The disk is quite thin and does not have sufficient rigidity to support itself. Because of this lack of rigidity the disk itself is fitted inside a protective sleeve, usually made from a plastic material. When floppy disks first appeared in the early 1970's they were encased in a cardboard sleeve and since this material was not particularly rigid, the generic name 'floppy' disk was coined and came into common use.

The disk itself stores the information sent to it from the computer by encoding the binary sequence of '0' and '1' into magnetic impulses. Thus binary I would be represented on the disk by a positive magnetism, whilst binary 0 would be a negative magnetism. The disk drive is the device that converts these binary codes into magnetic impulses. Because the data is passed between machines without the need for the user actually to read it, there is a great deal of compression of the data, not least because of the storage restrictions of the disk. Also some type of structure to the packet of data being sent to the disk is necessary. The disk drive has to know which track the user has requested and also how far into the track itself it appears, i.e. selecting a sector with the track.

If all of this sounds way over your head then buying disk editor would be a waste of money, because a utility of this nature allows you to access the date on the disk itself and manipulate the data in a variety of ways for example, by changing it or placing it somewhere else on the disk. For those readers who want to learn about how the disk operating system works I would suggest that they first purchase these two books 'The Anatomy of the 1541' and 'Inside Commodore DOS'. (both reviewed last year in CCI.) Although they specifically cover the 1541 disk drive, the techniques required little modifications for other Commodore drives and the theory described is identical irrespective of drive unit. Editing disks is not a task for those who do not know what they are doing, the penalty can be an unusable disk. SUPER DISKDOC goes further than this and also allows direct access to the drive memory buffers, and the penalties for errors in this area can mean a locked-up drive mechanism. There is a considerable difference between prodding about in the memory of the computer with a monitor; any mistakes can be undone by switching the machine off.

SUPER DISKDOC will run on any Commodore machine with at least 64k, so that rules out the C16, 32k PET and VIC-20.

There is no restriction on the drives and the utility works on the 2031, 4040, 1541, 1551, 1570, 1571, SFD 1001, 8050 and 8250, so no complaints there.

The screen display is divided into three logical groups, the upper half for the command menu, the lower left for a screen display in hexadcimal of the relevant data being read and the lower right for the ASCII equivalent of the hex codes. The menu employs the 'duckshoot' technique for selection with two primary commands which lead into further 'duckshoots', and some secondary commands. The two primary commands are DISK and FILE.

The DISK command subdivides into a further 13 subcommands, some of which define the system in use in terms of unit device numbers and printer type parameters. Some of these subcommands divide even further so a pretty comprehensive range of disk examination tools are available. For example the command 'LOG' gives and extended directory which includes load addresses for program files, track and sector occupation per file, side sector and record lengths for relative files. The entry to reading the drive buffers is also made from this menu and the manual supplied is helpful over providing details of the memory locations of the buffers on different drives. It appeared that the utility could provide a printout of this particular selection, which would be invaluable for advanced 'DOSsers'.

I would have liked to see a greater development of this function by allowing redirection of output to not only the screen but to a disk file, possibly on another drive for later examination. I was surprised that the PLUS/4 selection did not contain a Centronics printer driver, this can make it awkward examining the 1551 drive, as this unit will only interface to the PLUS/4 because hard copy is not available unless you have a Commodore serial printer. My Epson RX80 F/T, PLUS/4 and 1551 drive combination could not generate hardcopy.

The FILE command subdivides into 11 subcommands allowing forward or reverse travel along a file trail on the disk, locking of individual files, and the very useful INTERPRET subcommand. This will dump a disk block onto the screen in either text, BASIC, assembler or screen codes, a very powerful tool. The FILE command structure also includes a subcommand for recovering a corrupted file if you lack the skills to do this manually. A lot of potential users will be interested in this mode and I found this to be very successful on recovering from 'soft' errors. Corruption of files and their recovery is very much a hit and miss affair and if SUPER DISKDOC is successful it can be thought of as having paid for itself surely? More or less all of the necessary requirements to put a disk through the mill were covered on the residual 15 main menu commands.

The strengths of SUPER DISKDOC lie in its ease of use, providing all of the features a user would require in one package, a very good 23 page manual, the ability to cover all combinations of Commodore 8-bit hardware with automatic selection of either 80 column or 40 column display depending on the machine being used. It is written entirely in machine code apart from a BASIC loader to determine the operating unit and is very robust, I couldn't get it to go down. A good product at a good price, but only for those who know what effect their actions are having on the disk or drive unit.

Product: *SUPER DISKDOC*
Description: *Disk Editor and File Data Recovery Utility*
Price: *£19.95*
Supplier: *Precision Software Ltd.*

CalKit

"The Complete Problem Solving Software Package", proclaims the box. "No more traffic jams," think I. "Hot sun every Saturday afternoon during the cricket season - cheques from publishers by return post..."

No such luck.

A spreadsheet is certainly a very useful tool if you have to juggle with numbers but a universal panacea it is not. I suppose these advertising people have to earn their corn and we don't really believe everything we read on the outside of cartons, do we?

CalKit is a spreadsheet by Batteries Included, the US software house responsible for Paperclip - one of the better word processors available for the 64. It is marketed in the UK by Ariolasoft, who have made a beautiful job of the presentation. The disc is supplied in a ten-disc library box which fits into a custom made printed sleeve. (It's the sleeve which makes all those promises about the weather, unemployment, the Arms Race, groundsel in the vegetable patch and so on.)

Also in the disc box (Calkit is not available on tape) is a dinky little 72-page manual. Whilst I was genuinely impressed with the professional quality of the packaging, I'm afraid that the sacrifice of a decent sized manual is far too high a price to pay. After all, the manual is likely to be in use long after the packaging has ceased to have any effect on the user.

A spreadsheet is the electronic equivalent of a huge sheet of paper divided into rows and columns. The TV or monitor screen provides a "window" through which can be seen a small portion of the sheet. Text, numbers and formulae can be entered into the "cells" which form the intersections of row with column. The program can be instructed to perform a variety of operations on these cells and to enter the results of its calculations into other cells. Formulae can contain reference to the contents of other cells, permitting "what if?" calculations to be performed (what happens to the result if I alter one of the entries?).

It is probably true to say that spreadsheets are among the most commonly used programs on business micros. Depending on their degree of sophistication, they can be used for a wide variety of applications - bookkeeping, budgetting, comparing prices, scientific calculations, virtually anything that involves numbers, in fact.

Since spreadsheets are such useful programs and the Commodore 64 is such a popular computer, it won't surprise you to know that this is not the only such software package available. Those already on the market vary from the truly superb to the downright grotty via the good value and blatant rip-off. So where does CalKit fit into the spectrum?

Something of a "Curate's Egg", must be the answer. For speed and ease of operation it's as good as any I've seen. It has a clear screen display, convenient Help facility (not that you'll need it after a very short while) and a whole range of ready-made forms to enable the user to make practical use of the spreadsheet virtually from the word Go.

It is these "Library Forms" which really distinguish CalKit from the mass of other spreadsheets battling for space on the shelves of the software stockists. There are twenty forms in all, including a Home Budget which totals up all your income and expenditure; a Metric Conversion chart which allows you to type in your feet and inches etc and read off the metric equivalents; a Balance Sheet format which helps in assessing the viability of a business; a Cooking sheet which performs conversions on recipe quantities if you want to make, say, 27 fairy cakes instead of the standard 14. Whether the forms are used as they stand or modified for your own personal requirements is of course up to you.

All or part of any form can be printed out through the serial port (so you're confined to using Commodore printers or buying a hardware interface) and sheets can be saved in a variety of different formats. This enables data calculated by CalKit to be incorporated into documents prepared using Paperclip, for instance.

Everything that CalKit does, it does well. Very well indeed. My reservations with the program are mainly concerned with what it doesn't do. It has fewer commands than any other 64 spreadsheet I have seen (and I've had a go with about a dozen); it lacks a "walking" facility, whereby data is entered into a cell and the cursor moved on to the next cell with a single keystroke and it does not offer a "load from directory" option.

Then there's that manual. Not only is it tiny (less than A6) but it's printed in such a way that you have to have the glued spine at the top rather than the side. The screen shots used to illustrate the text are almost indecipherable and I for one found the writing style annoyingly condescending.

Conclusions: Notwithstanding the above criticism, **CalKit is an extremely well thought out program that will enable even a complete novice to make valuable use of the C64.** The built-in applications library contains usable templates that can be easily modified for practical use within a very short period of time. At £35, Ariolasoft must have pitched the price exactly right because I honestly can't make up my mind whether or not to recommend it!

Contact: Ariolasoft UK Ltd, 68 Long Acre, Covent Garden, London WC2E 9JH.

SABRE: 128

PRODUCTS

Products that are produced by the companies whose name they bear are becoming rarer and rarer. Korea, Taiwan, Hong Kong and points east are the sources that supply most of the world's computer needs. Trade names and labels mean less and less. It's an agreeable change to find a company like Sabre Technology that not only sells but manufactures too-and puts its reputation behind its products.

Two products that have found considerable favour with CCI have been recently released by Sabre. Teleconnect-80 opens up a new world to the average 128 user by allowing the use of an ordinary TV set to see 80 columns. At £14.95, it must be a bargain, as, in effect, it gives you that extra monitor we all want.

Another useful Sabre product is the Visionwitch. This device allows you to display both 40 and 80 columns on a monitor (80 columns in mono) and change between them at the flick of a switch. Suitable for moniters 1701 and Philips 75 series. It includes headphone socket and audio lead. Price: 913.95.

And these products come with a 12 month guarantee and, from what we hear, not one product they have manufactured has been found to be faulty. That's a high recommendation for anyone.

Contact:-
Sabre Technology
28 Asterfield Avenue
Allestree
Derby
DE3 25U.

HSV COMPUTER SERVICES LIMITED

COMPUTER SUPPLIES AT LOW LOW PRICES!

CONTINUOUS STATIONERY

	QTY 250	500	1,000	2,000
9.5" × 11" 60 GSM MICRO-PERF ALL EDGES	£2.95	£4.95	£8.95	£14.95
TRUE A4 90 GSM MICRO-PERF ALL EDGES	5.25	8.75	14.95	—
LABELS 3.5" × 1.5"(1 across)	—	2.95	4.95	9.50
LABELS 4.0" × 1.5"(1 across)	—	3.25	5.50	10.50
LABELS 4.0" × 1.5"(2 across)	—	3.75	6.50	11.95

PRINTER RIBBONS	Each		Each
CANON PW 1080/1186	£3.25	JUKI 6100 M/S	£2.75
COMMODORE DPS1101	3.50	MANNESMANN TALLY MT80/80+	4.75
COMMODORE 4023	4.75	OKI MICROLINE 80/82/83	1.75
COMMODORE MPS801/803	3.25	SEIKOSHA GP80	2.75
COMMODORE MPS802/1526	4.75	SHINWA CP80	4.75
COMMODORE 8026/8027/8032	2.25	STAR SG10/SG15	1.75
EPSON FX/LX/MX/RX80	3.25	TAXAN KAGA	3.25
JUKI 6100 S/S	1.75	WALTERS VM80	4.75

DISKETTES (Boxed in 10's)

StorageMaster™

LIFETIME GUARANTEE		UNBRANDED LIFETIME GUARANTEE	
5¼" SS/DD 48 TPI 40 TRACK	12.95	5¼" SS/DD 48 TPI 40 TRACK	8.95
5¼" DS/DD 48 TPI 40 TRACK	16.95	5¼" SS/DD 48 TPI 40 TRACK	9.95

DISKETTE STORAGE BOXES	Price Each
30 × 5¼" HINGED LID	£5.50
50 × 5¼" HINGED LID LOCKABLE	£8.95
70 × 5¼" HINGED LID LOCKABLE	£10.95
100 × 5¼" HINGED LID LOCKABLE	£13.95
40 × 3½" HINGED LID LOCKABLE	£9.95

ALL OUR PRICES INCLUDE CARRIAGE & VAT — NO EXTRAS TO PAY!

HSV COMPUTER SERVICES LIMITED, 40 - 42 New Market Square, Basingstoke, Hants RG21 1HS (0256) 463507

Data Preparation *Computer Supplies*

HSV

MICROCOMPUTER HARDWARE SUPPLIES

COMPUTERS	
THE AMAZING AMIGA with Hi Res Col Mon, Mouse	1475.00
Integral 3.5in. Drive, Kickstart, Workbench & Tutor AMIGA as above plus plus 3.5in. Drive	1675.00
Commodore 64 Compendium C24/Music Maker/A. Mole etc.	147.00
Commodore 128D inc. Built-in 1571 Disk Drive	412.00
Commodore 128D inc. Built-in 1571 Disk Drive + 1900 Mon	495.00
Commodore Business Pack 128D + 1900 + MPS100 + Microclerk	742.00
Commodore 128	207.00
Commodore 128 + 1570 Disk Drive	345.00
Commodore 128 Compendium C2N/Music Maker/Joystick/Games	230.00
PRINTERS	
Citizen 120D Dot Matrix with tractor 120cps & NLQ	167.00
Commodore MCS801 COLOUR Dot Matrix Printer	135.00
Commodore MPS801 Dot Matrix 50cps	126.00
Commodore MPS803 Dot Matrix with tractor	136.00
Commodore MPS1000 Dot Matrix 100cps & NLQ fric/trac	219.00
Star NL10 with C64/128 Interface 120cps & NLQ	222.00
MONITORS	
Philips BM7502 Green 12in. Composite video & sound	72.00
Philips 8501 Col. RGB 14in. Std Res	176.00
Commodore 1900 12in. Mono Monitor for C64/128	120.00
Commodore 1901 14in. Colour Monitor for C64/128	229.00
ACCESSORIES	
Commodore 1541 Disk Drive	136.00
Commodore 1570 Disk Drive for C128	159.00
Commodore 1571	216.00
Commodore Tractor Feed for MPS803	17.35
Centronics Interface for C63/128 with 8k buf & graphics	51.30
Commodore 64 Power Supply	21.70
Surge Protector 13 Amp Plug	10.38
Printer Ribbons — You name it...	P.O.A.
BUSINESS SOFTWARE	
Easyscript Word Processor C64	15.00
Future Finance Planning Package C64	13.00
Microclerk 128 Accounts/Spreadsheet/Typing/Filing	85.00
Pocket Wordstar Word Processor (CP/M)	43.00
Superbase 128 Programmable Database	72.00
Superscript 128 Word Processor	64.00
Vizastar 64 Spreadsheet & Database	49.00
VizaWrite Classic 128 Word Processor	73.00
DISKS (Examples)	
5.25in. SS/DD Goldstar (10)	7.75
5.25in. DS/DD StorageMaster (10)	16.25
3.5in. DS/DD Goldstar (10)	28.00

DELTA PI PROCESS INTERFACE FOR COMMODORE 64/128
8 Analogue Inputs (12 bit) & 32 Digital Input/Output lines £199.00

Delivery: 4 day £7 + VAT. Next day £10 + VAT. Software & small items FREE
Please add 15% VAT to all prices

Make cheques payable to

Delta Pi Software Ltd

8 Ruswarp Lane, Whitby, N. Yorks. YO21 1ND. Tel. 0947 600065 (9am-7pm)
Please contact us for many other products not listed

The London AMIGA™ Centre

Hi-Voltage are the Amiga experts. As Commodore's largest computer store we are proud to give the world's most advanced computer pride of place in our showroom. We stock the most comprehensive range of peripherals and software including colour printers, as they become available. New items are arriving every day so please phone us if you do not see the items you require below.

FREE on site service during the first year

Just arrived – phone for latest prices

Deluxe Paint *graphics*	Textgraph *Wordprocessor*
Deluxe Print *layout and print*	Musicraft *Music composing*
Aegis Images *graphics*	Ram Disk *silicon disk up to 1Mb*
Aegis Animator *animation*	Lattice C *compiler*
Aegis Draw *c.a.d.*	MCC Pascal *compiler*
Grafox Logistix *spreadsheet/ database/graphics*	Cambridge Lisp *interpreter/compiler*
VIP Professional *Lotus 123 clone*	K Seka *assembler*
Graphicraft *graphics*	2Mb add-on memory
	Printer cable plus screen dump software

Mail Order + Export + Trade Hot Line Phone 01-686 6362

HI-VOLTAGE

53-59 High Street, Croydon, Surrey CR0 1QD. Tel: 01-681 3022

COMMODORE PLUS-4 / C16

MERLIN ASSEMBLER

100% machine code assembler for the Plus-4/C16. Very fast assembly of source code. Easy entry / editing of code via the full screen editor. Full error messages pinpointing the errors. Full load/save and printer facilities. Intelligent assembly. Variable names, labels, hex/decimal, text and data statements, remarks, post indexing of variables. – Many other facilities too numerous to mention. Highly recommended -A truly superb assembler. Come with instruction booklet and FREE booklet of machine code routines. Cassette £8.95. Disc £13.95.

THE MIRROR -TAPE BACK UP

Superb tape to tape back up copier catering for the majority of Plus-4/C16 games. Backs up both standard and FAST loading software. All major loading systems catered for. Very large menu of both general back up routines and popular games. Extremely easy to use. No extra hardware or second cassette unit required.
Excellent value – £7.95.

THE WAND – TAPE TO DISC

The majority of Standard and FAST loading games on cassette are effortlessly transfered to disc. A must for disc drive owners!! Excellent value, supplied on disc – £12.95.

EVER HAD A LOADING PROBLEM?

Then send off for WIZARD'S TAPE HEAD ALIGNMENT KIT - No one should be without one!
The most common cause of loading failure is bad alignment of your tape heads. This kit allows you to set up the tape heads of your cassette unit for the best possible loading conditions. In many cases this will make a remarkable difference in loading reliability.
Our kit comprises of :
1) A precision recorded cassette containing a sophisticated test program. 2) A special adjustment screwdriver. 3) A direction indicator. 4) A turning meter. 5) A detailed instruction booklet with diagrams. 6) A Loading Doctor - to help you diagnose any loading problems. All of this for only £6.95!!!

COMMODORE 64

COPY KING - PLUS *Excellent back-up copier for FAST LOADING programs. *FREE this month a suite of additional back up routines. *Striped loaders, Picture loaders etc. handled with ease *Back up copies are made on blank TAPES at fast speed (faster than disc!) – VERY reliable loading, unlike some competing utilities we could mention! *Easy to use *No second cassette unit required *Great value at £7.95
HALF PRICE SPECIAL!!! – Copycat and Lightning Load together for only £5.95. Separately £5.95 each.
COPY CAT – Our highly popular tape to tape back-up copier for Commodore/standard rate loading systems *Wizard sound effects. Cassette magic sense *Thousands sold.
LIGHTNING LOAD II – Converts almost all your slow loading games/programs into SUPERFAST TURBO loading versions on tape *The tedious wait for loading is over when you buy this excellent program.
TAPE HEAD ALIGHMENT KIT – Description the same as PLUS-4/C16 version (see above) Highly popular utility – £6.95
RAPID dispatch of orders.
U.K. postage is included in the price. Europeans please ADD 50p. Outside Europe ADD £1.50 for airmail. Overseas orders welcome. All payments must be in pounds sterling.
Cheques/POs to:

WIZARD SOFTWARE (Dept.X)
59, THE MARLES, EXMOUTH,
DEVON EX8 4NE

Teletext Adaptor

Microtext, with years of experience of Teletext systems, have released a Teletext Adaptor for the Commodore 64 or 128.

The Adaptor turns the Commodore 64 or 128 into a sophisticated Teletext receiver. It provides a full colour display of any of the hundreds of free pages available via Teletext. It's the only Teletext Adaptor suitable for use throughout Europe (except France) in Australia and New Zealand. Teletext is available from morning till night on all four channels in the UK and in most other European countries. It is constantly updated and provides free, hundreds of pages of news, finance, fun, sport, features and much more.

A page, like a recipe or a film review may be saved to disc or cassette for subsequent reloading and Teletext information may be accessed from programs written in basic. So you can write programs to plot graphs of share movements or automatically load other information into programmes.

It will print out pages too. Currently the MPS801 and any Epson compatible printers are supported. Software for other printers that are suitable will be free-issued to those that require it at a later date.

With the Microtext Adaptor, an extra aerial signal is not required as the adaptor connects, via a lead which is supplied, to the 'Video Out' socket on the rear of any domestic video recorder, so using the tuning circuitry of the video rather than duplicating it within the adaptor. A domestic video recorder contains complex circuitry which takes the aerial input, tunes to a particular channel, filters, mixes and demodulates etc. to provide a signal called 'composite video' available on the 'VIDEO OUT' connector at the rear of the machine. The Microtext Teletext Adaptor uses this 'composite-video' signal as it's input. It just plugs into the video, this in turn conserves power, eliminating the need for an extra power supply and results in a significant cost reduction. A separate tuner will be available soon as an add-on for those without a Video recorder.

Microtext supply the adaptor itself, a connecting lead, software on cassette and a manual. The adaptor is guaranteed for 12 months. It is cased measuring 120 by 100 by 50mm, fits neatly on the user port of the Commodore. The lead connects between a socket on the adaptor and the 'VIDEO OUT' socket on the back of any domestic video recorder. The software is not protected and instructions are supplied to enable backup copies to be made on disc or cassette.

The price at £69.95 seems excellent value

Contact:
Microtext, 7 Birdlip Place, Horndean, Hants, PO8 9PW. Tel: 0705-595694

I.C.P.U.G.

the Independent Commodore Products Users Group

is the largest and most friendly Computer Club in the country.

- **Over 70 local groups with regular meetings**
- **Superb Newsletter — 80 plus pages of reviews, news and information every two months**
- **Free Software Library**
- **Help and Advice**
- **24 disks of public domain Amiga software (verified by ICPUG's Mike Todd) available to members on supply of disk and payment of p&p.**
- **Discount Scheme**
- **We support all Commodore Machines old and new: PET, VIC20, 64, 16, +4, 128 and Amiga . . .**
- **Subscription only £10 per year (U.K.)**

If you are seriously interested in using or programming any Commodore computer, then joining ICPUG is a must!

For full details, send a stamped, addressed envelope to:-

ICPUG Membership Secretary,
Jack B. Cohen,
30, Brancaster Road,
Newbury Park,
ILFORD,
Essex. IG2 7EP

COMMODORE 128 OWNERS

TELECONNECT—80

DO YOU WISH YOU COULD SEE 80-COLUMNS ON YOUR T.V.

If so, we've just launched the ideal answer to the problem. This device modulates the 80-column output to produce a monochrome display on any ordinary television set. The display is monochrome so as to give a clear and readable picture on both black/white and colour TVs. At last be able to use flashing characters and underlining; make wordprocessing and business packages far clearer; see full width CP/M text and so on. Inclusive price **£14.95**

VISIONSWITCH—128

AS REVIEWED BY THIS MAGAZINE

The device that allows you to display both 40 and 80 columns on a monitor (80-cols in monochrome only) and change between them at the flick of a switch. Suitable for most makes of monitor including the Commodore 1701 and Philips 7502 monitors. Also includes headphone socket for sound output and audio connection for monitors with a sound input. All this and crystal-clear displays for just **£13.95**

Serial Cable Extension Leads

6-pin DIN plug on one end, 6-pin DIN socket on the other and a length of screened flex.
2m extension **£3.50**, 5m extension **£7**, 10m extension **£13**.
Other lengths available on request.
All of our products carry a 12 month guarantee and our prices are inclusive of postage and packing.

SABRE TECHNOLOGY & SOFTWARE

Cheques/POs payable to **Sabre Technology & Software** please. Orders to **Sabre, 28 Askerfield Avenue, Allestree, Derby DE3 2SU.** Watch out for more exciting launches soon. Please allow 28 days for delivery.

commodore 128

Last month's bad news hasn't happened yet, so we're still able to ship the 128D range at our original LOW prices... for the time being! There's more good news this month... Oxford have released their new PASCAL for the 128, and we've expanded our range of 64 products yet again!

Commodore 128D computer	£479.95	1901C monitor 40/80 colour	£279.95
128D plus 1900M monitor	£549.95	1900M monitor 40/80 mono	£94.95
Commodore 128 computer	£249.95	RS232 or Parallel Interfaces	£29.95
Commodore 1571 disk drive	£259.95	128/IEEE + Parallel Interface	£79.95

1 year guarantee on all Commodore products. Prices subject to availability. VAT included. Please add **£5** for **3-day delivery** or **£10** for **Datapost overnight.** Interfaces **post free.**

VIZAWRITE Classic 128

VizaWrite Classic 128 is a much enhanced successor to the best-selling VizaWrite 64, which **THE TIMES** featured in three articles, calling it 'a creative writer's dream!' **VizaWrite Classic** is certainly the **best** wordprocessor we've yet seen on **any** computer, ever! Written specially for the 128, **VizaWrite Classic** makes maximum use of the speed, memory and 80-column display, showing your document **exactly as it will be printed...** with a **30,000** word disk dictionary, massive **55K text area**, proportional **printer support** plus **built-in NLQ fonts** for CBM/Epson type printers, easy-to-use **'pull-down'** menus, **full function** calculator, **'newspaper style'** columns, **mail merge...** and much, much more!

VIZASTAR 128

The information processor... spreadsheet, database and graphics: the **most powerful** integrated system yet for the Commodore 128! The latest design techniques provide the ultimate in **ease-of-use** with all the sophistication of a fully **integrated** product... **VizaStar's** advanced spreadsheet includes **high speed** maths formulae, date functions, lookup tables, enormous **60K worksheet** (1000 by 64), programmability, windows, cell protection, **fast** search and sort, text editing, wordprocessor merge, variable column widths... **PLUS** a built-in database with **split-second** access, up to **8K** record size, **9** screens per record, unlimited file size, **16** files per database, full support for data exporting, reporting and selection... **PLUS** displayed or printed **hi-res graphics,** automatically scaled, with 2-D, 3-D, bar & line graphs, colour pie charts... and much more!

FANTASTIC SUMMER SAVINGS ON ALL VIZA PRODUCTS!

VizaWrite 'Classic' 128	~~£9.95~~	£76.95	VizaStar 128	~~£120.95~~	£96.95
VizaWrite 64 'Professional'	~~£9.95~~	£49.95	VizaStar 64 XL8	~~£9.95~~	£76.95
VizaWrite 64 (cartridge)	~~£9.95~~	£69.95	VizaStar 64 XL4	~~£79.95~~	£66.95

Please note both versions of VizaWrite 64 now include VizaSpell on disk

Superbase

Turn your Commodore computer into a **professional** data management system, with **SuperBase**... the most powerful database ever produced for 8-bit computers! **SuperBase** has everything you need, whether you're beginner or expert... **menu-driven** and **program** control, **calculator** and **calendar** functions, **easy access** to word processor or data files, **sorting** and **searching**, superfast **data retrieval**, fully definable **report** and **screen** formats... **Superbase** is essential if you want the **most** from your computer! Supplied with excellent tutorial and reference manual.

BEST EVER SUPERBASE PRICES!

SuperBase 64	~~£9.95~~	£54.95	SuperBase 128	~~£99.95~~	£64.95
SuperBase Plus/4	~~£9.95~~	£54.95	SuperBase: The Book		£11.95

Tricks & Tips for the 128

A 300-page treasure chest of easy-to-use practical techniques for your C128... packed with ready-to-enter BASIC and Assembler listings, carefully explained, and full of useful ideas for you to try! You'll see how to run 64 programs at **128 speed**, how to work with **graphics** and **multiple screens...** You'll see how to alter the **character set**, print or display **banner titles**, add extra **function keys**, **protect** and **restore** your programs, redefine the **keyboard**, add new **Basic commands** and much more... all for only **£12.95!**

The Anatomy of the 128

With nearly 500 information-packed pages, this is THE book to get about your new Commodore 128... the insider's guide to the secrets of this powerful computer! Fully documented ROM listings of both Basic and the Kernal... memory maps... zero-page listings... ports, interrupts, boot routines... SID, VIC, Z80 & 80-column chips... memory management... assembly code... enlarging the screen ... 640 x 200 graphics... all this and much more for only **£12.95!** (Also at **£12.95, The Anatomy of the 1571**)

SELECTED SOFTWARE FOR YOUR COMMODORE 128

SuperScript 128	The intelligent word processor for your 128	~~£89.95~~	£69.95
Script 128	As SuperScript 128, without the speller		49.95
PetSpeed 128	The Basic 128 compiler, from Oxford	~~£49.95~~	44.95
Oxford Pascal 128	The definitive Pascal for the 128	~~£49.95~~	44.95
MicroClerk 128	All-in-one business system from Commodore		99.95
Pocket WordStar 128	Full WordStar 3.0 for your 128, from MicroPro		49.95
Pocket WordStar Deluxe	As above, plus SpellStar speller/dictionary		69.95
Matrix 128	Run 64 programs on your 128 - in 128 mode!		49.95
Super DiskDoc	The complete disk doctor for your 64 or 128		19.95

MORE SOFTWARE BARGAINS FOR YOUR COMMODORE 64

SuperScript 64	The intelligent wordprocessor for your 64	~~£69.95~~	£49.95
Print Shop 64	Be your own printer, publisher and editor!		44.95
SuperType 64	Professional touch-typing keyboard trainer	~~£25.95~~	17.95
SuperType 64 (tape)	Touch-typing trainer as above, on tape	~~£19.95~~	16.95
Simon's Basic 64	Programmer's cartridge from Commodore	~~£50.00~~	35.00
BLinker 64	Assemble your programs from modules		29.95
PetSpeed 64	The standard 64 Basic compiler from Oxford	~~£50.00~~	34.95
Oxford Pascal 64	The complete J & W Pascal for your 64	~~£49.95~~	42.95
Oxford Pascal 64 (tape)	Pascal for 64 tape users	~~£22.95~~	19.95
JetPack 64 (tape)	Basic 64 compiler for tape users		14.95
SuperBase Starter 64	SuperBase without the difficult bits!	~~£39.95~~	29.95
Practicalc II	Half price stock clearance - only a few left!	~~£69.95~~	34.95
Master 64	Do-it-yourself database for programmers	~~£69.00~~	39.00

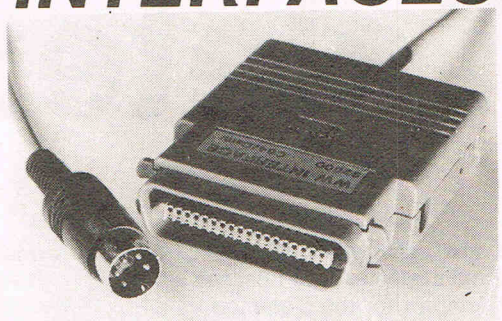
WANT IT TOMORROW??? CALL US TODAY!!! ON 01-546-7256

Prices include VAT and POSTAGE and are correct on going to press. Order by post or phone, using cheque, Access, Barclay/Visa or postal order. Despatch is by same day 1st CLASS post. Product data available on request, or phone for advice if in doubt. [REF A41]

Access VISA **Calco Software**

LAKESIDE HOUSE, KINGSTON HILL, SURREY, KT2 7QT. TEL 01-546-7256

CENTRONICS INTERFACES



MODEL 92008/G – DOES IT ALL!

Full Commodore graphics and special characters, tabs, dot graphics etc. Plus 8K buffer. **£64.99**

ALSO

MODEL 92000 – less graphics	£49.99
MODEL 92000/G – with graphics, no buffer	£59.99

All models software transparent – no driver needed.

Connect to C16 or Plus 4 (with optional mains adaptor), VIC 20, C64 or C128 or daisy chain to disk chain.

Includes printer lead – nothing more to buy.

FCC *SYSTEMS LIMITED*

THE LODGE, MOORLANDS ROAD
MERRIOTT, SOMERSET TA16 5NF
TEL: CREWKERNE (0460) 73442
PRESTEL MAILBOX 046073442

Prices include VAT
Please add £1.00 p+p

DEALER ENQUIRIES MOST WELCOME

Mail Order Ex-Stock

COMPUTER I.C'S FOR COMMODORE - SPECTRUM - Q.L. BBC

AND MANY OTHER COMPUTERS AND PERIPHERALS

6510	£20.70	8360 (7360)	£26.85
6525	£20.70	8501 (7501)	£4.15
6526	£20.70	2016	£4.62
6529	£3.60	901460-03	£13.10
6551	£18.52	901486-01	£18.10
6569	£20.70	901486-07	£18.10
6581	£20.70	68008	£14.42
906114-01 (82S100)	£20.70	2310 CLA 8302	£6.15 £5.10
901225-01	£20.70	256K	
901226-01	£20.70	ROM(Q.L.)	£10.12
901227-03	£20.70	325302-01	£15.25
901229-05	£20.70	325303-01	£15.25
6561	£23.10	325572-01	£20.70
5C 112E ULA	£5.75	251913-01	£25.72
6C 0016 ULA	£5.75	318004-04	£20.70
ROM (SPEC)	£5.10	318006-01	£20.70
4532-4(TEXAS)	£1.80	31800-03	£25.72
8502	£3.82	318018-012	£25.72
8563	£20.70	390059-01	£25.72
8566	£20.70	318019-02	£25.72
8701	£6.90	2G007 ULA	£2.50
8721	£9.10	8049	£4.31
8722	£13.50	128 K ROM (Q.L.)	£6.25

SEND YOUR ORDER WITH CHEQUE/POSTAL ORDER/CASH TO:

C.I.C.

C.I.C.,
Unit 7, Wentworth Industrial Court,
Goodwin Road,
Britwell, Slough,
Berks. SL2 2ER.
England.
Telephone 0753 824722.
Please add £1.50 P. & P.

Evesham Micros

ALWAYS A STEP AHEAD

DOUBLER

The tape back up "device"

Doubler has been an **enormous success** and continues to sell very well. Why? Because it is the **best product of its type** on the market. Doubler uses a unique method that copies **all types of software** regardless of speed. It consists of **hardware and software**. The software is the key part as unlike other products of its type Doubler creates a **brand new machine copy**. It is very easy to use and very successful. In fact our tests **have proved** that this "device" can achieve **100% success**.
Requires access to two data recorders.

ONLY £12.95

Why settle for less—this is the best.

ALIGNMENT PROBLEMS?

1541 PHYSICAL EXAM

£39.95

The program includes a digital alignment disc and software which allows you to **accurately check and correct** disc drive alignment. The instruction booklet is **very detailed**. Also includes quiet drive stops to **stop** that "hammering" thus preventing further problems.

ONLY £39.95

NEW MK.III VERSION

DISC DISECTOR V5.0

Disc-Disector

Now the **FIFTH generation** of the country's **leading** disc back-up/utility package is available. This latest version includes **many more "PARAMETERS" to handle the latest highly protected discs.**

"EVESHAM 3 MINUTE NIBBLER" is the **latest version** of the infamous "Evesham Nibbler" now boasting **even more power and speed. Will now copy even the most highly protected discs in 3-4 minutes.** Handles the latest types of disc protection **completely automatically.** This often involves the use of the **"PARAMETER COPIER"** which adds the vital secret code that the highly protected programs check for (This is the important difference that makes this the best). At the time of going to press this program copied **virtually every disc program available for testing including the latest in games and business software.**

"DUAL DRIVE NIBBLER" allows the use of two drives to make **even faster back-ups.** Incorporates device number change software so no hardware mods necessary.

"NOVA TRANSFER" will **transfer to disc** the latest Nova Load programs including **multi part loaders.** A very useful utility that also includes routines to transfer "Summer Games II" and "Beach-Head II" to disc.

"DISCO" will transfer standard speed load software to disc.

"TRANS QD" allows you to save a fast load system to your own discs.

"DOUBLE BACK UP" is a **very fast** two drive back up.

As well as these important newcomers all the old favourite utilities which have helped earn "Disector" such a large following are included. These include **Menu Maker (selective), Fast Format, Unscratch, Disc Monitor, Disc Orderly, Fast File Copy, Index, etc., etc.**

The whole package is menu driven and has its own fast boot system built in for your convenience. Pays for itself the first day you receive it.

ONLY £29.95

Customers with earlier versions may return them along with a payment of £9.95 to receive V5.0

Programs are CBM 128 and 1570/71 compatible in '64 mode.

Quickdisc+

FAST LOAD PLUS UTILITY CARTRIDGE

After enjoying considerable success since its release we have now made some improvements to "QUICKDISC+" to maintain its position as the best value in the disc "speed up/utility" cartridges.

Fast LOAD (now 5-7 times normal speed). Works with majority of protected software. Can be switched in and out from the keyboard.

Fast SAVE at 7 times normal speed.

Fast Format takes just 20 seconds.

Fast Backup copies an entire disc in four minutes (not protected software).

Very Fast File Copier for selective file copying at HIGH speed. Now handles files up to **248 blocks** long.

Improved DOS commands (DOS 5.1) makes for easy use of the disc drive. eg. $(RETURN) will LOAD and display a directory without overwriting BASIC. SHIFT RUN/STOP will LOAD "0:*",8,1 etc. **Very, very useful.**

Incorporates Centronics printer software (user port) **with CBM graphics** capability (requires user port centronics cable).

A RESET switch is fitted. (We have found this to be "unstoppable", it even preserves the tape buffer).

NO MEMORY IS USED by this cartridge, it is totally "transparent" and uses special switching techniques.

"128" and 1570 compatible in '64 mode.

PLUS MANY MORE USEFUL FEATURES TO MAKE YOUR 1541 FAR MORE FRIENDLY TO OPERATE.

ONLY £19.95

When reviewing "Quickdisc+" Commodore Horizons said: **"A MUST FOR EVERY 1541 OWNER".**

NOW EVEN FASTER

FREEZE FRAME

THE BEST IN BACKUP METHODS IS NOW EVEN BETTER

NOW HANDLES PROGRAMS THAT LOAD SUBSEQUENT PARTS

"Freeze Frame MKII" must have been the **world's most powerful and most successful** backup product. The success of "Freeze Frame" spawned several imitators but they are pale imitations of, what we are convinced, is the **most advanced and easy to use backup product in the entire world.**

Now the **"MKIII" version** has moved "Freeze Frame" well ahead of the "opposition". As well as its unfailing skill in handling **every memory resident program** available for testing up to 1st July 1986 it will now transfer from tape to disc the vast majority of **programs that load subsequent parts.**

FEATURES

- TAPE TO DISC
- DISC TO DISC
- COMPLETELY SELF CONTAINED, NO EXTRA SOFTWARE NEEDED
- FILES COMPRESSED FOR ECONOMY OF STORAGE SPACE
- 128/128D COMPATIBLE IN 64 MODE
- TAPE TO TAPE
- DISC TO TAPE
- RELOAD INDEPENDENT OF THE CARTRIDGE
- NOW HANDLES PROGRAMS THAT LOAD EXTRA PARTS
- PROGRAMS RESTART FROM THE POINT BUTTON IS PRESSED

OPERATING "FREEZE FRAME"

"Freeze Frame" is **simplicity itself** to use. It is cartridge based so is simply plugged into the cartridge port. When the computer is switched on a message is displayed, pressing "RETURN" will clear the computer back to the normal start up screen. Software can now be loaded from tape or disc **completely as normal.** The latest version of "Freeze Frame" will, to the best of our knowledge, allow **ANY software** to load and run normally (unlike competitive products).

"Freeze Frame" can be brought into operation at any convenient point by **pressing the button** on it. You can then do one of three things:—

1. **Pressing "D" will save a working version of the program in memory to a formatted disc. This version will include an auto booting very high speed reload (many programs reload in less than 30 secs).**
2. **Pressing "S" will save to disc with a standard reload speed that can be used by non 1541/70/71 drives U.S. spec. machines, etc., but perhaps more importantly by most fast load cartridges and systems. Use "Dolphin DOS" to reload anything in less than 10 secs. (Also suitable for U.S. spec. machines.)**
3. **Pressing "T" will save a working version of the program in memory to tape. This incorporates a high speed reload at approx. 2400 baud.**

IT'S AS SIMPLE AS THAT

ALL PROGRAMS SAVED WITH "FREEZE FRAME" CAN BE RELOADED INDEPENDANTLY OF THE UTILITY

ONLY £39.95

Owners of earlier versions can return them and upgrade for £14.95.

SERIOUS WARNING: THIS IS AN EXTREMELY POWERFUL PRODUCT AND IS STRICTLY FOR PERSONAL USE. DON'T COMPARE IT WITH ANY OTHER PRODUCT, NOTHING ELSE OFFERS THE POWER OF "FREEZE FRAME".

QUIET DRIVE STOPS

This package incorporates new drive stops for **two 1541s** that will **end for good** the dreaded "woodpecker". The fitting process is very easy and a test program is provided to check the fitment. Helps prevent future alignment problems and makes your drive purr with satisfaction.

ONLY £4.95

ODDS AND ENDS

STAR NL10C The best Commodore ready printer, many features including 120cps draft mode, 27cps near letter quality, tractor and friction feed with semi automatic single sheet feed, most functions front panel switch selectable but perhaps most importantly the **Interface cartridge is replaceable.** So if you change to another make of computer you simply purchase a new interface to suit. **ONLY £269.00**

DISC NOTCHER Allows you to easily cut a second write protect notch in your discs so that you can use both sides. A very useful gadget. **ONLY £6.95**

AZIMATE 3000 Lets you realign the head of your data cassette quickly and easily. Supplied with suitable screwdriver. **ONLY £6.95**

3M DISKETTES The best quality discs, available from us at the price of cheap ones. Buy the best, they last a lifetime. Boxes of ten—

SINGLE SIDE/DOUBLE DENSITY	£11.95
DOUBLE SIDE/DOUBLE DENSITY	£13.95
OR PACKED IN A PLASTIC LIBRARY CASE	
SINGLE SIDE/DOUBLE DENSITY	£12.95
DOUBLE SIDE/DOUBLE DENSITY	£14.95

COMMODORE COMPATIBLE DATA RECORDER Performs the same operations as the C2N or 1531 but a useful saving. Also includes a pause button (if for use with C16/PLUS4 please state) **ONLY £29.95**

AND THEN THERE WAS

DOLPHIN DOS THE DIFFERENCE IS *STAGGERING*

Like everyone that has had the pleasure of seeing this system in operation you will be amazed by both the speed and ease of use. It is compatible with the majority of commercial software, speeding up both the program loading and SEQ/REL files. Fitting requires the insertion of two sub assembly boards, one in the 1541 and one in the '64/'128. This does not normally entail soldering, although a small amount will be necessary with some machines.

ONLY £69.95

If you require further information please send SAE for fact sheet.

Operates with the CBM 64 or 128 in '64 mode with 1541 disc drive.

THE FEATURES

25x FASTER LOADING (PROGRAM FILES)
12x FASTER SAVING (PROGRAM FILES)
10x FASTER LOADING (SEQUENTIAL FILES)
8x FASTER SAVING (SEQUENTIAL FILES)
3x FASTER LOAD AND SAVE (RELATIVE)
(These figures do not allow for searching)
Easy DOS commands from function keys.
Fast formats 40 tracks giving 749 blocks free.
Centronics driver software inbuilt.
Machine code monitor.
Can be switched out if necessary.

SUBJECT TO AVAILABILITY. ALL ORDERS DESPATCHED THE WORKING DAY AFTER RECEIPT

All prices include P&P and VAT. Send cheque, Postal Order or Credit Card No. Credit Card orders accepted by phone. Callers welcome. Wide range of goods stocked. Trade enquiries welcome. European orders send price as advertised. Outside Europe £2.00 for airmail. Mail order to Evesham please.

EVESHAM MICROS
BRIDGE STREET, EVESHAM, WORCS. WR11 4RY.
Tel: 0386 41989

MICRO CENTRE
1756 PERSHORE ROAD, COTTERIDGE, BIRMINGHAM.
Tel: 021-458 4564

Access VISA

In Australia contact: **MICRO ACCESSORIES of S.A.,** 39b Anderson Walk, Smithfield, South Australia 5114. Tel: (08) 254 6284

NYMPHS AMONG THE NODULES

There is a tremendous potential for the mining of nodules-chunks of highly metal-cores at the deep bottom of the sea. And future "aquaspace" colonies may include a nodule mine staffed entirely by young women, an energy-conversion farm occupied exclusively by Bridge Grand Masters, and a bioculture factory run by compulsive gamblers. (Yes, they will have their own private casino to occupy their spare time!) According to a new 296-page research report from Norwalk, U.S. based consulting firm International Resource Development Inc., this may be part of a solution devised within a couple of years by the U.S. National Aquaspace, Aeronautics and Space Administration (NAASA) to alleviate loneliness and isolation experienced by workers engaged in deep ocean commercial activities, as well as in extended trips in outer space. Mark Pine of the IRD research staff sees the creation of "special interest colonies" as part of the solution to these problems. "The concept is not at all new," Pine points out, "as long ago as the year 1000 BC there were colonies such as the Amazons, consisting of groups of people who chose not to live in the general heterogeneous community."

Soon as increasing amount of deep ocean commercial activities will be carried out by computer operated robots - and there may be some astonishing situations created. Anthony Mael investigates.

Competition For Confinement

The key to successful commercialization of aquaspace -- and of outer space, too -- is to make life in the colonies so interesting, not to mention different, that able young workers will flock to compete for the jobs available. "It's a widely-known fact that wages at offshore oil rigs are among the highest anywhere, but the physical strength required in most of today's offshort colonies tends to limit job applicants to 'roughnecks' and artisans with special skills," Pine explains. **Soon, Pine believes, an increasing proportion of the activities in deep ocean commercial activities will be accomplished by computer-operated robotic manipulators and systems, requiring a high level of computer skills but much less muscle.** A much broader range of workers, running the gamut from newly-minted graduates to retirees, will soon be applying for aquaspace jobs, but according to Pine, "There's going to have to be a lot more attention paid to compatibility between the workers, and especially to commonality of interests."

As for NAASA, the IRD staff believes that soon -- perhaps within a year or two -- the functions of today's Space Agency will be expanded to encompass the frontiers of the deep oceans as well as the frontiers of space beyone the Planet Earth. "There is even a school of thought which says that some of the pioneering leading-edge technology development in these environments should be handled by a single trained group of trained Astronaut/Aquanaut individuals; so many of the actual activities and skill requirements are the same in each case," says Pine.

"Huge" Profitability For Some Sectors

The new IRD report, which evaluates the market outlook for seven major offshore and deep ocean market sectors, predicts that "huge" profits will be make by commercial organizations with the vision and financial stamina to exploit the riches in and under the ocean. "This is one set of markets in which the United States is still generally at an advantage over its foreign competitors -- even over the Japanese, whose association with the seas has been long and close," comments Pine. The large amounts of capital required will restrict most of the major opportunity areas to large organizations. Small companies, however, are expected to participate strongly in the service, supply and transportation aspects of future deep-ocean operations.

In addition to nodule mining, other offshore opportunities explored in the new IRD report include oil and gas exploration and recovery, desalination (to produce fresh water for Saudi Arabia and other water-short areas), sea-farming and marine production of biochemicals and medicinals.

Offshore & Deep Ocean Commercial Opportunities

	Industry Characteristics				
	Capital Costs	Technical Barriers	State of Technology	Short-Term Prospects	Long-Term Prospects
Offshore Oil & Gas	High	High	Mature	Doubtful	Good
Mineral Mining	Very High	Very High	Immature	Poor	Fair
~~Mariculture~~	Moderate	Moderate	Maturing	Fair	Fair
Marine Biotechnology	Moderate	Very High	Immature	Poor	Good
Waste Disposal	Moderate	Moderate	Maturing	Very Good	Good
Energy Conversion	Very High	Very High	Immature	Poor	Good
Desalination	Moderate	Moderate	Maturing	Fair	Very Good

(SOURCE: INTERNATIONAL RESOURCE DEVELOPMENT INC.) #689

International Resource Development Inc. is a consulting and publishing firm which, over the past 15 years, has published almost 400 research studies examining the commercial significance of new technologies.

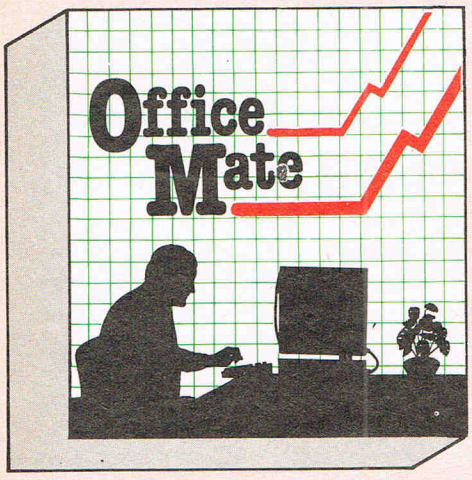
Further details on the $985.00 report (£689) entitled "OFFSHORE AND DEEP OCEAN COMMERCIAL OPORTUNITIES," IRD, 6 Prowitt Street, Norwalk, CT 06855; U.S.A.,; Telephone (203) 866-7800; Telex 64 3452.

Gemini & CentreSoft PRESENT

OFFICE MATE

With over four years experience of providing practical software solutions for business and home applications, Gemini have put together a selected range of famous titles for the Commodore 64 and 128 in TWO special packs, at VERY SPECIAL prices. These super value packs contain all the serious application software you're ever likely to need for your CBM, from word processing and database management to a complete professional business accounting system. Gemini's 'OFFICE MATE' and 'OFFICE MASTER' are here now - put that computer to work!

OFFICE MASTER



Word Processor

A fully-featured word processor program with text formatting - right justification - adjustable page length - text centering - output of all or part of text to printer - selective saving - file concatenation - block move - block delete - reverse print - graphics print - double width print - sorting - left and right margin selectable - word count - search and replace.

Mailing List

This program will enable you to keep a record of names and addresses and then print, examine, sort and find them, all with special selection techniques. Featuring the famous Gemini 'search-key' system, you have the option of creating your own dedicated coding routines for each name on the file.
For example, on most mail systems you are only given the standard headings such as name, street, town, county, etc. but with our system, you could for example find all companies listed that have a turnover in excess of a certain figure, or all subscribers who are behind with their subscriptions, or all people eligible for a Christmas card this year! A full range of utilities is callable from the menu including, ofcourse, label printing.

Database

Superior file management system with features found only with packages costing much, much more. Completely user-definable data entry format - colours definable - advanced mathematics using built-in machine code expression evaluator - fast sort on numeric and string fields - extensive searching with 'wild card' capability - user-definable data summaries - simple on-screen editing. A really POWERFUL database!

Home Accounts

Designed as a complete home accounting package, this program allows the user to set up and maintain a budget for items of household expenditure and compare actual with budget ,either numerically, or with the aid of chart graphics. A complete bank account routine is included, together with standard expenditure categories which may be changed to suit.

- **Word Processor**
- **Database**
- **Mailing List**
- **Home Accounts**
- **Extensive Documentation**

OFFICE MATE £12 Cassette or 1541 Disk **£15**

Step up to OFFICE MATE and save money! Usual price individually £79.80

- **Database**
- **Mailist**
- **Word Processor**
- **Stock Control**
- **Cash Book**
- **Final Accounts**
- **VAT File**
- **Full Documentation**

Database, Mailist and Word Processor as 'Office Mate' PLUS: Cash Book / Final Accounts / VAT File.

Gemini's legendary cash book system for the CBM is a complete 'stand-alone' accounting software package, already in extensive use by both accountants and their clients.

General System Overview

The Gemini cash book package for the Commodore 64/128 microcomputer is designed for a hardware system consisting of:

1. Commodore 64/128 microcomputer.
2. 80 column printer.
3. Cassette or disk data storage.

Please note that running the program on disk will not change the way that the program works, but you will have the benefit of far greater speed and reliability for the loading and saving of files that a disk system provides.
There is a total of 199 nominal accounts, a large number of which may be defined by the user. You may have up to four cash control accounts, six bank control accounts, one sales ledger and one purchase ledger control account.
The program will store a data file consisting of:

1. The account titles.
2. The current cumulative balance on each account (debit or credit).
3. The net movement on each account for every month of the year.
4. VAT net sales and net payments figures, which are automatically created and maintained by the program.

This same data file is used by the FINAL ACCOUNTS program. The 'VAT FILE' which accompanies this package is designed primarily for those users on the Retailers special VAT schemes.
The main features of the CASH BOOK program are as follows:

1. Double entry routines for transactions through the cash/bank accounts and sales/purchase ledger control accounts.
2. Journal facility for the initial set up of accounts, or for adjustments to any of the accounts.
3. The facility to produce the following screened or printed reports:

(a) Listing of all the nominal account titles.
(b) Monthly transaction summaries.
(c) A trial balance whenever required.
(d) Screen VAT memo account balances (sales/net purchases, and VAT accounts).
(e) A batch printing facility which provides details of all the transactions entered in the current run of the program.

4. The facility to extract regular management information such as cash/bank balances, debtors and creditors, sales, overheads, etc.
5. The program interfaces with the Gemini FINAL - ACCOUNTS program to enable Trading and Profit and Loss accounts and Balance Sheet to be produced whenever required. Comparative or budget figures can be shown alongside the actual figures using this program.
6. Screen prompts throughout the program to facilitate ease of use.
7. Storage of VAT information to assist in the preparation of periodic VAT returns.
8. Error trapping routines to minimise input errors.
9. The facility to handle the financial transactions of sole traders, partnerships, limited companies, clubs, etc.

Users registered for VAT are reminded that it is a statutory requirement to inform their local VAT office when they change their accounting records on to a new computerised accounting system.

OFFICE MASTER £25 Cassette or 1541 Disk

Dealers please note that 'Office Mate' and 'Office Master' now available also on BBC, Electron, and Spectrum.

Sole distributors to the trade:
CentreSoft Ltd. Tel. 021-359-3020

MAIL ORDER TO:

Gemini Marketing Limited, 'Gemini House', Dinan Way Trading Estate, Exmouth, EX8 4RS.

Please send me ____ CBM 64/128 'Office Mate' packs @ £12 (Disk £15)

Please send me ____ CBM 64/128 'Office Master' packs @ £25 Cassette / Disk (please delete as necessary)

Cheque / P.O.s enclosed to value £ ____
or please debit my Access/Amex No. ____

Name: ____

Address: ____

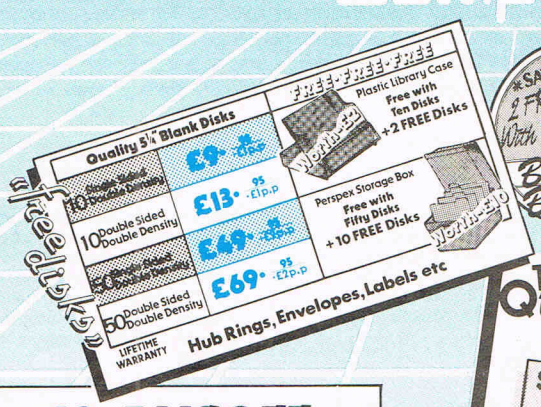
Signature: ____

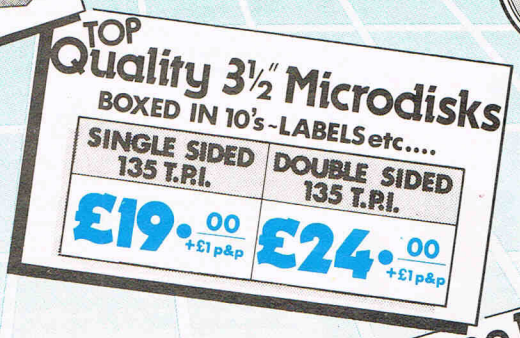
CC!

24 HOUR CREDIT CARD HOT LINE (0395) 265165 (4 lines)

Trade and overseas enquiries welcome

Compumart





24 Hour Credit Card Order Line
0509-233893
VISA Access

Please send cheques/postal orders to:
Compumart, (Dept CCI)
Unit 8, Falcon Street, Loughborough,
Leics, LE11 1EH

Compumart
0509-262259
HOTLINE

1st
FIRST SOFTWARE LTD

dBASE II™

ANOTHER FIRST FOR FIRST – **dBASEII**, the world's best selling database is now available on your computer (if you have an AMSTRAD 6128, 8256 or 8512, Commodore 128, Tatung and Atari) exclusively through First Software Ltd or your local dealer for only £119.00 inc VAT, including the full manual.

Join the millions of users worldwide, doctors, students, solicitors, accountants, stockbrokers and collectors, who get the best from their information by using **dBASEII**. Use simple English like commands to do your repetitive tasks, by commands such as Do invoices, Do analysis etc.

At last, the business world's standard database, available for you.

dBASEII quite simply dBEST.

For more information call us on 07357-5244 or write to First Software Ltd, No. 20 Horseshoe Park, Pangbourne, Berks.

Access or Barclaycard welcome.

1st
FIRST SOFTWARE LTD

Feature

1st at the Top

Sara Galbraith, MD

Kate McGibbon

... legal battles for a formidable duo!

They don't look tough — at first sight. They look very feminine and very charming. They stand out — as attractive women do even more — in a man's world. It is the world of software and computer book publishing. But when you talk to them, through the feminine charm, you can feel the strength of confidence that comes with success in a highly competitive world.

Sara Galbraith, MD and Kate McGibbon, Marketing Manager respectively of both 1st Publishing and 1st Software can certainly claim to be at the top of the league. Sara founded the company in 1984 and is taking it along the road to reach her objective of making it the 'Marks and Spencer' of software and books. In '1st's first year it spent £500,000 in promotion and that certainly brought it to the public's notice. The aim has been to anticipate the market and publish really new ideas for books and software on new machines. The coverage they are giving to the 128D and the AMIGA is a case in point. In this issue there is a review of dBase II for the 128 and of their new book 'Presenting the AMIGA'. They had in fact, three best sellers out of their first 8 books. A pretty good record.

Their emphasis is on business or 'serious' applications. 'We don't publish games or games books,' Sara Galbraith says. 'We concentrate on what we do well.' A statement which caused some hesitation when we heard they were bringing out a magazine. Kate McGibbon reassured us. 'It's only really for dealers. To give information about products. Like a catalogue only better.' Livewire Kate, known for the kind of determination that would find a needle in a dozen haystacks, joined '1st' only this year, but had already substantial experience in the business software market. She points out that at £119 R.R.P. 1st's dBase II is 'tremendous value'... 'No, it's not a high price,' she denies vigorously, fixing you with a sharp stare. 'It's worth it! And people either want dBase or they don't!'

Sara Galbraith points out that it is already an established product and that their corporate policy is 'not being outrageous for the next couple of years.'

Her normal calm is broken, however, and something like outrage takes its place when you mention '1st Software'. No not *her* 1st Software but another organisation that, Sara claims, is illegally using the name. 'We've spent 18 months and thousands of pounds challenging them legally' she almost snarls, 'All they've done is delay.'

'1st Software', let's call it No. 2, is a franchise — and joint owners are a U.S. company. The U.K. company, Reflex, has chosen to trade under the name of its U.S. associate, '1st Software'. Sara declares that the 1st (No. 2) is causing confusion among her company's customers and that she had registered the names well before. 'I really can't see why they need to use the name,' she says. 'They've got lots of trouble in the States — they've gone into a kind of liquidation. Haven't they got enough problems?'

1st Software No. 2 admitted to CCI that they were in a legal battle with Ms Galbraith's company but did not seem to worry that any confusion of names might affect their business. They claim no infringement has occurred because they are not legally registered as '1st Software' only trade under the name.

Sara Galbraith is determined to step up the efforts not only to make '1st Software' the leader in its field but to be the only '1st' in the field, even if it takes years to nail it down. Sara Galbraith and Kate McGibbon make a formidable pair. It would be hard to imagine that they will let anyone force their '1st' down to second place.

Anthony Mael

!NEW! BOOKS

The Anatomy of the C-128

This book guides you deep into the heart of the Commodore 128. Anatomy C-128 is written for those of you who want to push your computer to the limits. This book contains the complete, fully commented ROM listings of the operating system kernal. Here is a list of just some of the things you can expect to read about:

- Using the interrupts
- Assembly language programming and Kernal routines
- Z-80 processor and the boot ROM
- Peripherals and the ports
- Programming for sound and music
- Programming the various graphic modes
- Understanding and using the Input/Ourdoor ports
- Programming the Memory Management Unit (MMU)
- Using the 80-column chip
  getting 640 x 200 point resolution
  getting more than 25 lines on the screen
  smooth scrolling
  copying blocks in screen memory
  character length and width management

ISBN 0948015 268 **£12.95**

C-128 Tricks & Tips

Tricks and Tips for the C-128 is a tremendous treasure trove of programming techniques and 'tricks' for every C-128 owner. This book not only contains plenty of example programs, but also explains in a simple to understand manner the operation and programming of the computer

Contents include:

- Graphics on the C-128
- Working with more than one screen
- Graphics with the 80 column screen
- Simulating multiple windows
- Listing Converter
- Software protection on the C-128
- Changing the keyboard
- The MMU (Memory Management Unit)
- Important memory locations
- Changing the operating system
- Sprite handling
- Custom character sets
- Autostart
- The 80 column controller
- Modified INPUT
- Line insertion
- Banking
- Kernal routines
- Key pad in C-64 mode
- C-64 mode of the C-128

The Anatomy of the 1571 Disk Drive ..

Following the unprecedented success of the 1541 Disk Drive Book – Data Becker and First Publishing are pleased to launch this new definitive guide to the 1571 Disk Drive.
It comes working with the C-128 under Basic 7.0 and a comprehensive introduction to sequential and relative data files. Also programming the disk drive, using the direct access command, programming in DOS, imported DOS routines and how to use them. and of course a fully commented DOS listing.
An essential part of your computer library!

ISBN 0948015 081 **£12.95**

1st FIRST SOFTWARE LTD

For our brochure on all the C128 products please send this coupon to: UNIT 20B, HORSESHOE PARK, PANGBOURNE, BERKS RG8 7SW. TEL 07357 5244

NAME _____

ADDRESS _____

_____

A *NEW* TAPE TO DISK SYSTEM

THE EXPERT CARTRIDGE – A NEW TAPE TO DISK SYSTEM FOR THE CBM 64/C128[64 MODE]

☆☆ FREEZES AND SAVES MOST PROGRAMS TO DISK
☆☆ THE PROGRAM IS SAVED AS **ONE** FILE
☆☆ PROGRAMS ARE **COMPACTED** TO REDUCE THE AMOUNT OF DISK SPACE USED
☆☆ YOU CAN SAVE **5** OR MORE PROGRAMS PER DISK
☆☆ PROGRAMS ARE LOADED BACK **VERY FAST** BY THE BUILT-IN FAST LOADER
☆☆ MOST PROGAMS WILL LOAD BACK AND RUN IN LESS THAN **30 SECONDS**
☆☆ POWERFUL BUILT-IN MACHINE CODE MONITOR INCLUDES .....
☆☆ A **RESTART** COMMAND PLUS ALL THE USUAL MONITOR FUNCTIONS
☆☆ **NO** NEED TO USE THE CARTRIDGE FOR LOADING BACK
☆☆ EASY TO USE — **NO** PROGRAMMING KNOWLEDGE REQUIRED
☆☆ USES A RAM CARTRIDGE AND DISK BASED SOFTWARE FOR INSTANT UPGRADING
☆☆ **ALSO DOES DISK TO TAPE AND TAPE TO TAPE**

Although not the first, the expert cartridge tape to disk system out-performs all other similar products regardless of cost. Even foreign products costing twice the price cannot match the expert's performance. Why pay for outdated ROM based systems when the expert cartridge can be upgraded to meet the challenge of the most recent software for very little cost.

FOR C64 ONLY **£28.95**
FOR C128 [64 MODE] and C64 New! **£31.95** New!
PRICES INC. VAT, P&P.

FED UP WITH WAITING FOR YOUR FAVOURITE PROGRAMS TO LOAD FROM TAPE OR DISK? WELL, IN LESS THAN **30 SECONDS** ALMOST ANY PROGRAM WILL BE LOADED AND RUNNING WHEN YOU USE THE **EXPERT CARTRIDGE** TAPE TO DISK & DISK TO DISK SYSTEM

ORDERING: ☆ PROMPT DESPATCH ☆
PAYMENT BY CASH, CHEQUE POSTAL ORDER OR ACCESS **EXPORT** add £1.00 EXTRA PAYMENT IN STERLING ONLY PLEASE

Access

PLEASE FORWARD SAE FOR FREE CATALOGE OF OTHER BACK-UP DEVICES, C128 80 COLUMN ADAPTORS & LEADS

TRILOGIC Dept 2

MAIL ORDER 29 HOLME LANE BRADFORD BD4 0QA
CALLERS 329 TONG STREET BRADFORD BD4 9QY
Tel [0274] 684289

Books

MARK ANDREWS, Commodore 64/128 Assembly Language Programming, Howard Sams (distributed in Britain by Pitman Publishing, 128 Long Acre, London, WC2E 9AN) £13.50

The number of books about machine language programming seems to be outstripping the number of learners, so what does this one offer that's new?

A unique aspect claimed for the book is that it's applicable both to the C128 and C64. However, the introduction is the only place where the C128 is specifically discussed. It is true that the microprocessor and consequently the assembly language are almost identical between the two machines. Nevertheless, the text is firmly rooted in the C64 and it is up to the reader to make the connections with the C128.

Mark Andrews' book is an attempt at "cradle to grave" instruction. It starts at a very low level and explains matters in more detail than many beginners need or are likely to be able to follow. It is still explaining binary, hexadecimal and decimal numbers at page 32. The next 10 pages describe the inner workings of the 6510 and 8502 processor in detail. Chapter 4 follows with a lengthy discussion of the three different assemblers used throughout the book. Merlin, Panther and Zeus.

In practice, the operation of all assemblers is so similar that any incompatibility between those covered and what you're using is likely to be more of a minor inconvenience than a stumbling block.

Programs

Well after all this, here we are starting Chapter 5, having written a very simple machine language program to add two 8-bit numbers and print the result to the screen. The next thing to hit the ardent student is a demonstration of Basic's USR function to call a machine language routine. The explanation is remarkably clear and introduces a number of complex aspects of machine language coding, the use of vectors, use of the floating point routines, etc. The problem is that the level of the discussion has suddenly jumped from a simple introduction to an elaboration of very sophisticated techniques.

The next chapters cover types of addressing (or the way assembly language instructions refer to memory locations) and branching and looping instructions. In both cases simple programs, much easier than the ones in Chapter 5, are provided.

Here, as elsewhere, the material is organized as a comprehensive list... it doesn't matter if a learner is likely to need the instruction at this stage or not ... if it exists then you're going to find out about it, and in glorious technicolour with stereophonic sound!

For an inexperienced learner, the approach in this introductory section of Mark Andrews' book suffers in comparison with that taken by other authors, for example Ian Sinclair or Jim Butterfield in *Machine Language for the Commodore 64,* (reviewed in September CCI)

However, Mark Andrew's book does have compensating strengths. A quick learner may find the pace in the more elementary books a bit tedious, and want a more accelerated and comprehensive introduction. The later parts of this book deal with specific "real life" applications: mathematical operations, graphics and sound. There is a lot of general detail about the way these function in the Commodore 64/128, as well as assembly language listings. For example there are annotated programs to move characters from ROM and RAM and modify them, and very neat "sketcher program" that builds up from a Basic version to let you draw on the screen with a joystick. Unfortunately the amount of explanation given for these programs varies a good deal, and the last few in the book are little more than briefly annotated assembly language listings.

The book has few errors. I've tried all the programs to page 122 and the listings are mercifully free of mistakes. However, there is a mistake on page 92, the Zero Page addressing mode example should be ADC$03, not ACD#$03. (ADC#$03 is for immediate mode addressing.) The standard of writing is generally clear and the book gets full marks for layout, particularly the use of colour and headings. It is easy to find information on a "flip through" basis, and the index is a good compromise between too many references, and a sketchy list. This sort of attention to detail is all too often missing from computer books, and Sams deserves a lot of credit here for producing a book where the information is very accessible.

For a rank beginner the book may be difficult. For someone with a little experience the practical orientation of the later sections will be very attractive. The price is high, but for your money you get good quality printing, paper, binding and layout. For a book you'll be handling as much as this one, those are real advantages.

Neil Day

Don't miss out!

A subscription means you get the magazine delivered to your door. It saves you time and makes sure you don't lose out on what's happening in the Commodore world.

Send in the subscription coupon below and get the best Commodore magazine the easy way – through your letterbox. Don't miss out on the best, mail the coupon **now**.

(If you don't want to cut up the magazine, we're happy to have a photocopy of the coupon or a request on plain paper.)

Commodore – Subscription Order Form

To Subscriptions Manager, Commodore Computing International, 40 Bowling Green Lane, London EC1R 0NE. Tel: 01-278 0333 Telex: 267247 FINSEC

Please send me 12 issues of *Commodore Computing International*

☐ Cheque enclosed ☐ Please debit my Access

Card No. | | | | | | | | | | | | | | | |

☐ Subscription rate U.K. £15.00
☐ Europe £20.00
☐ Outside Europe £28.50

Expiry date: _____

Cheques should be made payable to: CROFTWARD LIMITED

Name _____

Address _____

_____

County _____ Post Code _____

Telephone (home) _____ (business) _____

Signed _____ Date _____

The 64 Software Centre

1 PRINCETON STREET, LONDON WC1R 4AL — TEL: 01-430 0954

The specialist centre for Commodore 64, 128 and Amiga

Selected items from stock (disk):

Amiga

Activision	The Music Studio	£35.00
	Hacker	£24.00
E.A.	Financial Cookbook	£69.00
	De Luxe Paintbox	£69.00
	Archon	£39.00
	Golden Oldies	£39.00
	Seven Cities of Gold	£39.00
	One on one	£39.00
	Skyfox	£39.00
Epyx	Rogue	£39.00
	Temple of Apshai Trilogy	£39.00
Maxisoft	Maxicomm	£69.00
	Maxidesk	£54.00
Mindscape	Brataccas	£59.00
	The Halley Project	£49.00
	Keyboard Cadet	£39.00
	Racter	£44.00

Commodore 128

Timeworks	Wordwriter 128	£60.00
	Data Manager 128	£60.00
	Swiftcalc 128	£60.00
	Personal Finance 128	£60.00
Micropro	Superscript 128	£69.00
Precision	Superbase 128	£69.00
Studio	Payroll 128	£44.00
Systems Soft	Petspeed 128	£42.00

Commodore 64

Anagram	Sales Ledger & Invoice Generator	£75.00
	Purchase/Nominal Ledger & Journal	£75.00
	Cashbook	£75.00
	Stock Control	£75.00
Baudville	Blazing Paddles Graphic Designer	£59.00
Berkeley	Geos	£59.00
Broderbund	The Printshop	£39.00
	The Printshop Companion	£35.00
	The Music Shop	£49.00
Cardco	G-wiz graphic interface	£79.00
	S'More (cartridge)	£59.00
CSM	1541 Disk Alignment Program	£49.00
DTL	Jetpack compiler	£35.00
Hesware	Heswriter (cartridge)	£29.00
	Forth (cartridge)	£49.00
Koala	Koalapad with Printer disk	£89.00
Micropro	Superscript 64	£49.00
Neos	Mouse & Cheese	£65.00
Practicorp	Practicalc II	£39.00
Precision	Superbase 64	£49.00
	Supertype	£20.00
Springboard	Newsroom	£59.00
Studio	Payroll 64	£44.00
Supersoft	Mikro Assembler (cartridge)	£55.00
	Zoom Monitor	£15.00
	Busicalc 3	£49.00
Systemsoft	Oxford Pascal	£42.00
Timeworks	Money Manager	£24.00
	Electronic Checkbook	£24.00
	Personal Finance	£60.00
Xetec	Fontmaster II wordprocessor	£69.00

All prices include VAT. Add £1.00 for p&p

Credit cards (Visa/Access) telephone orders accepted

Hours: 10.00 am/6.00 pm (incl Saturdays)

Program

MINI-SHEET

C64/(C128 in 64 mode)

David Gibbens

Mini-Sheet is a practical small scale spread-sheet program. It is fast loading and easy to use, and works on TAPE or DISC systems without alteration. Mini-Sheet is powerful enough to produce simple budgets; do credit card calculations, make gas bill forecasts and much more. You can use Mini-Sheet as it is; you can alter it to suit some special need, or use it to get aquainted with spreadsheets before buying a larger one. With Mini-Sheet you can keep up to five sheets in memory at a time, and pass results from one to the other. Thus giving instant switching between problems.

If you don't know what a spreadsheet is, rest assured, they are simple but useful things. In fact they are just big rectangles of cells (or squares) — think of a chess board. Each cell can contain a label (such as TOTAL or CASH), a number (such as 34.50) or a formula (such as 2★A1+5). A spreadsheet program goes through these cells: calculates the formulas and displays the answers. For example, the cells of a column could contain numbers, and the cell at the bottom could add them up.

This program mostly explains itself as it runs. Each job it can do is switched into action by pressing the appropriate f'key. An index to these, and other special keys, appears at the bottom of the screen. The spreadsheet display is 16 rows (named A-P) by four cols (named 1-4). When computing, the program calculates these cells columnwise: that is, column one (starting from top), then col two etc. You can store up to five spreadsheet layouts in memory at one time, each on a different page. Pages are numbered from 0 to 4. Pressing the £ key changes the page number. You can therefore switch easily from one sheet to another. To compute the sheet on the current page press f2.

Each cell may contain a LABEL, a NUMBER or a FORMULA — press f1, f3 or f5 respectively (the current cell is indicated by a sprite — this can be changed by using the CURSOR keys). The max length of a formula is 65 characters: the limit being shown by a 'ŧ' sign near the bottom of the screen. Formulas may use the values in other cells. This is done by quoting their addresses. For example: 10★B3 means, ten times the number in cell row 'B' col '3',. of the current spreadsheet.

If you want to call the value of a cell from a spreadsheet on another page, then you quote its page number: for example, 10★B3 from the sheet on page 4 is 10★B3£4. If you quote a cell not yet computed, or still being computed, you get the cell value shown on the screen at the start. This can be useful for updating cells. For example: if cell A1 contains the formula A1+1, then one is added to the value already in the cell, and this is done each time the sheet is re-computed. Formulas are written in ordinary basic. This means they can use IF statements: for example. "10★B3#IF(C4=1) THEN CELL=0". This means set the cell to 10★B3, but if C4=1 set the cell to zero. Notice that the IF is separated by # from the alternative formula.

You can also use IF statements to make the program jump backwards or forwards, to continue computing from another cell. Suppose we wanted to set a cell to 3 and make the program jump to cell A3 if C4=0, we would do this by writing "3#IF(C4=0) THEN A3$". Notice that the cell must always be given a value, in this case we gave it the value three.

If you want to set up user defined functions, then the easist way is to include them in the program before 'running' it. Line numbers 11-19 are suitable ones to use. It's also possible to modify the program, to allow them to be inserted directly from spreadsheets.

You can store and load the spreadsheets you have made (onto tape or disc), and print out your results. As before, each such action refers only to the spreadsheet on the current page. They are stored together with any calculated values they contain. If a spreadsheet must be stored onto a particular page (to get calls to it to work), then end its title with the page number, as a reminder: for example BUDGET 4. Lastly, if you accidently ★★CRASH★★ the program, then it is easily re-started: usually without losing any info. Press and hold the SHIFT-key and press CLR-HOME. Then type GOT0950 and press RETURN.

We liked David Gibbens spreadsheet programme and we think you will too. Just a word of warning though. It is very difficult to test this type of programme to destruction as it would use every type of command in every cell. Quite a task! But we have given it substantial testing and we found it worked. We hope you do too!

```
10 REM MINI-SHEET
20 POKE53281,1:POKE53280,15:BZ=4
30 H$=CHR$(19):C$=CHR$(147):D$=CHR$(17)
40 J$=CHR$(144):B$=CHR$(5):E$=CHR$(30)
50 RR=15:PRINTC$D$E$:FORW=1TO9
60 PRINTSPC(13)"* MINI-SHEET *"
70 NEXT:FORW=1TO8:SP$=SP$+" ":NEXT
80 FORW=1TO75:S1$=S1$+" ":NEXT
90 S2$=LEFT$(S1$,65):S3$=LEFT$(S1$,33)
100 S4$=LEFT$(S1$,20):S5$=LEFT$(S1$,13)
110 KK=3:R$=CHR$(18):F$=CHR$(146)
120 DIMV$(RR,KK,BZ),N$(RR,KK,BZ),C%(RR,KK,BZ)
130 Z=53269:POKEZ,0:GOSUB900
140 PRINTCHR$(8):P$=CHR$(152):GOTO950
150 REM COMPUTE
```

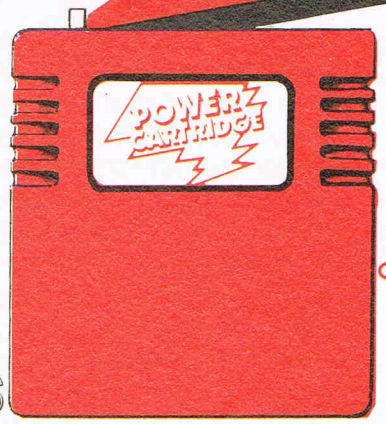
```
160 POKEZ,0:PRINTC$D$D$D$"A1=-VAL(V$";
170 PRINT"(R,C,LC))*C%(R,C,LC):GOTO210"
180 FORC=0TOKK:FORR=0TORR:PRINTH$D$D$
190 PRINTH$D$D$D$CHR$(65+R)CHR$(49+C)H$
200 POKE198,1:POKE631,13:END
210 NEXT:NEXT:C=0:R=0
220 W$=N$(R,C,LC):IFNOT(C%(R,C,LC))THEN290
230 PRINTC$D$D$:PRINTB$"CE="E$W$B$
240 PRINTD$D$CHR$(65+R)CHR$(49+C);
250 PRINT"=CE:GOTO280"
260 PRINT"GOTO480"P$H$:POKE633,13
270 POKE198,3:POKE631,13:POKE632,13:END
280 W=CE:GOSUB320
290 R=R+1:IFR>RRTHENR=0:C=C+1
300 IFC<=KKTHEN220
310 GOSUB790:GOTO950
320 REM ROUNDOFF
330 IFW=0THENW$="0.00":GOTO470
340 B=2:IFW<0THENB=1
350 A=(W<=9999999)AND(W>=-9999999)
360 A=(A)AND(ABS(W)>=.01):IFATHEN420
370 E=INT(LOG(ABS(W))/LOG(10))
380 A=2:IF(E<0)THENA=1
390 EE$=MID$(STR$(E),A):W1=LEN(EE$)
400 W$=MID$(STR$(W/10↑E),B,7-W1)
410 W$=W$+"E"+EE$:GOTO470
420 W$=STR$(SGN(W)*INT(ABS(W)*100+.5))
430 IFLEN(W$)>2THEN450
440 W$=LEFT$(W$,1)+"0"+RIGHT$(W$,1)
450 W1$=LEFT$(W$,LEN(W$)-2)
460 W$=MID$(W1$+"."+RIGHT$(W$,2),B,8)
470 V$(R,C,LC)=RIGHT$(SP$+W$,8):RETURN
480 AD=LEN(W$)-1:FORW=3TOAD
490 IFMID$(W$,W,1)<>"£"THENNEXT:GOTO560
500 W1$=LEFT$(W$,W-3):W3$=MID$(W$,W+2)
510 A1$=STR$(ASC(MID$(W$,W-2))-65)+","
520 A2$=STR$(VAL(MID$(W$,W-1))-1)+","
530 A3$=MID$(W$,W+1)
540 W2$="VAL(V$("+A1$+A2$+A3$+"))"
550 W$=W1$+W2$+W3$:W=AD:NEXT:GOTO230
560 FORW=2TOLEN(W$)
570 IFMID$(W$,W,1)<>"£"THENNEXT:GOTO600
580 W$=LEFT$(W$,W-1)+":"+MID$(W$,W+1)
590 W=LEN(W$):NEXT:GOTO230
600 W$=RIGHT$("ZZZ"+W$,3)
610 IFRIGHT$(W$,1)<>"$"THEN660
620 R=ASC(W$)-65:C=ASC(MID$(W$,2))-49
630 IF(R<0)OR(R>RR)THEN660
640 IF(C<0)OR(C>KK)THEN660
650 GOTO220
660 PRINTE$"ERROR CAUSED BY"
670 PRINT"ROW "CHR$(R+65);
680 PRINT" :COL "CHR$(C+49);P$D$
690 GOSUB1880:PRINTC$:GOSUB1530:GOTO950
700 REM SHOW SS
710 PRINTH$S5$"  "J$"MINI-SHEET"
720 PRINTE$"TITLE:"P$T$(LC);
730 PRINTTAB(28)"PAGE NO."LC
740 PRINTR$D$E$" ...1...  ...2...   ";
```

MAGNAM PRODUCTS INTERNATIONAL LTD.

POWER CARTRIDGE

FOR YOUR COMMODORE 64 & 128

EXTENDED BASIC
DISK TURBO
TAPE TURBO
MACHINE CODE MONITOR
PRINTER INTERFACE
RESET AND FREEZE
TAPE AND DISK BACKUP
TAPE TO DISK CONVERSION
42 PAGE MANUAL



"If you have yet to decide which cartridge you want, and I can assure you that they are becoming essential, then this is possibly the best, yet" Commodore Computing International, July 1986

"I like the Power Cartridge best, mainly because it's slightly easier to use than the Final Cartridge" ZZAP 64 July 1986

BASIC TOOL KIT

27 extra commands, AUTO, AUDIO, COLOR, DEEK, DELETE, DOKE, DUMP, FIND, HARDCAT, HARDCOPY, HEX$, INFO, KEY, PAUSE, PLIST, ILOAD, RENUMBER, REPEAT, SAFE, TRACE, UNNEW, QUIT, MONITOR, BLOAD
RENUMBER: *Also modifies all the GOTO's GOSUB's etc. Allows part of a programme to be renumbered or displaced.*
PSET: *Set up of printer type.*
HARDCAT: *Prints out Directory.*

KCS

DISC & TAPE TURBO

Loads & Saves tape 10 times faster and disc six times.

POWER MONITOR

leaves all of your Commodore memory available for programming.
Also works in BASIC-ROM, KERNAL and I/O areas.
A Assemble; C Compare; D Disassemble; F Fill; G Go; H Hunt; I Interpret; J Jump; L Load; M Memory; P Print; R Register; S Save; T Transfer; V Verify; W Walk; X Exit; $ Directory DOS Commands

PRINTER INTERFACE

Compatible with Serial/Centronics Printers.
The HARD COPY function automatically distinguishes between HIRES and LORES. Multi-colour graphics are converted into grades of grey. The PSET functions allow you to decide on Large/Small and Normal/Inverse printing.

RESET & FREEZE

Press Reset button and SPECIAL MENU apears on screen **CONTINU** - *Allows you to return to your program.* **BASIC** - *Return to BASIC* **RESET** - *Normal RESET.* **TOTAL BACKUP DISK**- *Saves the contents of the memory onto a Disk. The programme can be reloaded later with BLOAD followed by CONTINUE.* **RESET ALL** - *RESET any of programme.* **TOTAL BACKUP TAPE** - *As BACKUP DISK but to TAPE.* **HARDCOPY** - *At any moment, prints out a Hardcopy of the screen. Using CONTINUE afterwards you can return to the program.* **MONITOR** - *Takes you into the Machine language Monitor.*

NOW AVAILABLE FROM LEADING RETAILERS

£39.95

12 MONTH GUARANTEE

Available direct from MAGNAM PRODUCTS INT. LTD. HIGHLANDS, SPENCERS WOOD, READING, BERKS RG7 1AH
Please send me .... Power Cartridge(s) at £40.45 each (price includes £1.50 p+p)
I enclose a cheque/postal order payable to MAGNAM PRODUCTS INT. LTD.
If not completely happy, return undamaged and well packed within 30 days for a full refund

```
750 PRINT"...3...    ...4...    ";
760 FORR=0TORR:PRINTE$R$CHR$(65+R)F$P$;
770 FORC=0TOKK:PRINTV$(R,C,LC)P$,
780 NEXT:NEXT:RETURN
790 REM DISPLAY
800 PRINTC$:GOSUB700:R=0:C=0
810 GOSUB820:RETURN
820 REM SHOW CELL
830 D=1:PRINTH$P$CHR$(65+R)CHR$(49+C)
840 POKE781,20:POKE782,0:SYS65520
850 PRINTS1$
860 SYS65520:POKEZ,0:V=53264
870 PRINTN$(R,C,LC):X=C*80+32:Y=R*8+81
880 POKEV,0:IFC=3THENX=16:POKEV,1
890 POKEZ-21,X:POKEZ-20,Y:RETURN
900 REM SPRITE
910 POKEZ+18,7:POKEZ+8,1:POKEZ+6,1
920 POKEZ+2,0:POKE2040,11
930 FORW=731TO767:POKEW,0:NEXT
940 FORW=704TO730:POKEW,255:NEXT:RETURN
950 REM CONTROL
960 POKE781,22:POKE782,0:SYS65520
970 PRINTJ$"←=CLEAR CELL ?=PRINT C=C";
980 PRINT"LR↑ £=NEXT PAGE"
990 PRINTE$"F1=LABEL  F3=NUMBER ";
1000 PRINT"F5=FORMULA F7=DISPLAY"J$;
1010 PRINT"F2=COMP   F4=TITLE   ";
1020 PRINT"F6=SAVE     F8=LOAD"H$P$
1030 GETW$:IFW$<>""THEN1030
1040 POKEZ,D:GETW$:IFW$=""THEN1040
1050 W=ASC(W$):IFD=0THENPRINTC$
1060 IF(W$="←")AND(D=1)THEN1390
1070 IF(W$="?")THENGOSUB2140:GOTO950
1080 IF(W$<>"£")THEN1110
1090 LC=LC+1:IFLC=(BZ+1)THENLC=0
1100 GOTO1270
1110 K=(W=17)OR(W=29)OR(W=157)OR(W=145)
1120 IFW$="C"THEN1170
1130 IFKTHEN1330
1140 IF(W<133)OR(W>140)THEN950
1150 ONW-132GOTO1310,1320,1280,1270
1160 ONW-136GOTO150,1290,1250,1260
1170 PRINTC$E$"CLEAR SHEET:"P$"SURE? Y/N"
1180 GETW$:IFW$<>""THEN1180
1190 GETW$:IFW$=""THEN1190
1200 IFW$<>"Y"THEN1270
1210 PRINTC$:FORR=0TO15:FORC=0TO3
1220 C%(R,C,LC)=0
1230 N$(R,C,LC)="":V$(R,C,LC)=""
1240 NEXT:NEXT:T$(LC)="":GOTO1270
1250 D=0:POKEZ,0:GOSUB1660:GOTO950
1260 D=0:POKEZ,0:GOSUB1740:GOTO950
1270 GOSUB790:GOTO950
1280 GOSUB1410:GOTO950
1290 POKEZ,0:PRINTC$D$:INPUT"TITLE=";T$(LC)
1300 T$(LC)=LEFT$(T$(LC),16):GOSUB790:GOTO950
1310 GOSUB1560:GOTO950
1320 GOSUB1620:GOTO950
1330 IFD=0THEN950
```

```
1340 IF(W=17)AND(R<RR)THENR=R+1
1350 IF(W=29)AND(C<KK)THENC=C+1
1360 IF(W=145)AND(R>0)THENR=R-1
1370 IF(W=157)AND(C>0)THENC=C-1
1380 GOSUB820:GOTO1030
1390 N$(R,C,LC)="":V$(R,C,LC)="":C%(R,C,LC)=0
1400 PRINTC$:GOSUB1530:GOTO950
1410 REM GET FORMULA
1420 IFD=0THENRETURN
1430 POKE781,20:POKE782,0:SYS65520
1440 PRINT"  ";
1450 PRINTN$(R,C,LC);
1460 PRINTLEFT$(S2$,(65-LEN(N$(R,C,LC))));
1470 SYS65520
1480 INPUTN$(R,C,LC):V$(R,C,LC)="        ?"
1490 N$(R,C,LC)=LEFT$(N$(R,C,LC),65)
1500 C%(R,C,LC)=N$(R,C,LC)<>""
1510 IFW=135THENGOSUB1530
1520 RETURN
1530 REM UPDATE DISPLAY
1540 RA=R:KA=C:GOSUB700
1550 R=RA:C=KA:GOSUB820:RETURN
1560 REM LABEL
1570 IFD=0THENRETURN
1580 GOSUB1410:C%(R,C,LC)=0
1590 W$=RIGHT$(SP$+LEFT$(N$(R,C,LC),8),8)
1600 V$(R,C,LC)=CHR$(151)+W$
1610 GOSUB1530:RETURN
1620 REM NUMBER
1630 IFD=0THENRETURN
1640 GOSUB1410:W=VAL(N$(R,C,LC)):GOSUB320
1650 N$(R,C,LC)=V$(R,C,LC):GOSUB1530:RETURN
1660 REM SAVE
1670 PRINTC$E$"SAVE MODE"P$:SA=1
1680 SA$="W":IFT$(LC)=""THEN1870
1690 GOSUB1930:IFWTHENRETURN
1700 CH$=CHR$(34):FORR=0TORR:FORC=0TOKK
1710 PRINT£8,CH$" "+V$(R,C,LC)CH$
1720 PRINT£8,CH$" "+N$(R,C,LC)CH$
1730 PRINT£8,C%(R,C,LC):NEXT:NEXT:GOTO1850
1740 REM LOAD
1750 PRINTC$E$"LOAD MODE"P$:T$(LC)=""
1760 PRINTD$"GIVE TITLE TO LOAD ";
1770 SA=0:SA$="R":INPUTT$(LC)
1780 IFT$(LC)=""THEN1870
1790 GOSUB1930
1800 IF(W)OR(EE)THENT$(LC)="":RETURN
1810 FORR=0TORR:FORC=0TOKK
1820 INPUT£8,W$:V$(R,C,LC)=MID$(W$,2)
1830 INPUT£8,W$:N$(R,C,LC)=MID$(W$,2)
1840 INPUT£8,C%(R,C,LC):NEXT:NEXT
1850 GOSUB2040:CLOSE8
1860 CLOSE15:PRINTE$"FINISHED":RETURN
1870 PRINTD$E$"NO TITLE"D$
1880 REM WAIT
1890 GETW$:IFW$<>""THEN1890
1900 PRINTP$"PRESS RETURN TO CONTINUE"
1910 GETW$:IFW$<>CHR$(13)THEN1910
1920 PRINTC$:RETURN
```

Program

```
1930 REM D/T
1940 PRINTD$"INSERT DISC/TAPE"D$
1950 W=0:DT=0:GETW$:IFW$<>""THEN1950
1960 PRINTP$"THEN:DISC OR TAPE? T/D"
1970 GETW$:IFW$=""THEN1970
1980 IFW$="T"THENOPEN8,1,SA,T$(LC):GOTO2030
1990 IFW$<>"D"THENW=-1:PRINTC$:RETURN
2000 OPEN15,8,15
2010 IFSA=1THENPRINT£15,"S0:"+T$(LC)
2020 OPEN8,8,8,"0:"+T$(LC)+",S,"+SA$:DT=-1
2030 GOSUB2040:RETURN
2040 REM ERROR CHECK
2050 EE=0:IFDT=-1THEN2080
2060 IF(((ST)AND(63))<>0)THEN2100
2070 RETURN
2080 INPUT£15,A7$,B7$
2090 IFVAL(A7$)<20THENRETURN
2100 CLOSE8:CLOSE15:EE=-1
2110 PRINTC$E$"DISC/TAPE ERROR "A7$
2120 IFDTTHENPRINTD$"WHICH MEANS "B7$D$
2130 GOSUB1880:RETURN
2140 REM PRINT
2150 POKEZ,0:D=0
2160 PRINTC$P$D$"SWITCH PRINTER ON"
2170 GOSUB1880:OPEN4,4:GOSUB2250
2180 PRINT£4,S3$"* MINI-SHEET *"
2190 PRINT£4,S4$"TITLE:"T$(LC)CHR$(13)
2200 FORR=0TORR:PRINT£4,S4$;
2210 PRINT£4,CHR$(65+R)":  ";:FORC=0TOKK
2220 PRINT£4,RIGHT$(SP$+V$(R,C,LC),8);" ";
2230 NEXT:PRINT£4:NEXT
2240 GOSUB2250:CLOSE4:RETURN
2250 PRINT£4,S4$;:FORW=1TO38
2260 PRINT£4,"-";:NEXT:PRINT£4:RETURN
55554 STOP
```


CCI Sweatshirts and Tee Shirts

Tell the world you've got the best!

Terrific Quality and Terrific Value!
Get them for yourself and for giving as presents.
They're great to look at and wonderful to touch!

Sweatshirts – £9.45 inc P&P
(grey or white)

Tee Shirts – £4.45 inc P&P
(grey or white)

TO: Commodore Computing International
Finsbury Business Centre
40 Bowling Green Lane, London EC1R ONE

Please send me ☐ **Sweatshirts @ £9.45**
in Grey ☐ White ☐ size S ☐ M ☐ L ☐ XL ☐

Please send me ☐ **Tee Shirts @ £4.45**
in Grey ☐ White ☐ size S ☐ M ☐ L ☐ XL ☐

Name

Address

Tel

Please make cheques or postal order payable to CROFTWARD LTD or state your Access number below

Product Update

C128D SOFTWARE PORTFOLIO

To keep you up to date with new developments, we are providing an authorative list of packages available for the 128, together with recommended retail prices.

RRP (inc. VAT) £

SCRIPT 128 - Commodore 49.99

SUPERSCRIPT 128 - by Precision Software Ltd 89.95

VIZAWRITE CLASSIC - by Viza 99.95

WORD WRITER - By Timeworks 69.99

WORDSTAR - By Micropro 129.99

SPELLSTAR - Wordstar 86.99

MAIL MERGE - Wordstar 86.99

DATA MANAGER 128 - by Timewords 69.99

RETRIEVE - By Sagesoft 59.99

SUPER BASE 128 - by Precision 99.95

dBASE II - by Ashton Tate 395.00

CARDBOX - by Caxton Software 124.99

SWIFT CALC - By Timeworks 69.99

SWIFT SPREADSHEET - by Audiogenic 24.95

SUPERCALC - by Sorcim 99.99

MULTIPAN - by Microsoft 129.99

ACCOUNT-ABILITY - by Microhex 149.50

"POPULAR" SALES/PURCHASE & NOMINAL LEDGERS 99.99

"POPULAR" INVOICING/STOCK SYSTEM ... 69.99

"POPULAR" PAYROLL 69.99

ACCOUNTS + ... 149.99

COMBO 149.99

SUPER COMBO 199.99

STOCK-AID INVENTORY CONTROL SYSTEM - by Dialog 34.95

SALES LEDGER AND INVOICE PROCESSOR - by Dialog 34.95

TRANSACT III BOOK-KEEPING SYSTEM 49.95

PURCHASE LEDGER - by Dialog 29.95

TRANSACT INTEGRATED ACCOUNTING SYSTEM' by Dialog 99.00

MICRO CLERK - by JCL 99.99

WORD WRITER, DATA MANAGER, SWIFT CALC - all by Timeworks ..... each 69.99

TEAM MATE INTEGRATED WORD PROCESSING, DATABASE, SPREADSHEET AND HIGH RESOLUTION GRAPHICS IN A SINGLE DISK - by Dialog 49.95

VIZASTAR - by Viza Software Ltd 99.95

JANE - by Commodore 49.99

CP/M UTILITIES - by Commodore 24.99

DEVPAC 80 - by Hisoft 39.95

PASCAL 80 - by Hisoft 39.95

C++ - by Hisoft 39.95

CIS - COBOL - by Microfocus 129.99

CIS - COBOL ANIMATOR - by Microfocus .. 129.99

MACRO - by Microsoft 129.99

PROFORTRAN - by Prospero 129.99

PROPASCAL - by Prospero 129.99

ECO-C - by Ecosoft 169.99

MICRO ILLUSTRATOR 128 - by Commodore 49.99

3D GRAPHICS DRAWING BOARD - by Glentop 14.95

MUSIC MAKER 128 - by Commodore 149.99

PAZAZZ - by Commodore 14.94

TOTAL OFFICE - by Total Office 79.95

dBASE II - by 1st Software 119.00

ICPUG is a highly influential organisation and brings many benefits to its members across the whole range of Commodore activity. CCI considered that a regular column from ICPUG would be of interest to many readers. The views expressed by ICPUG may not be those of CCI

Probably the most memorable event during May was the Commodore Show at the Novotel in Hammersmith, and ICPUG had a stand there. Our purpose in being at the show was to meet and talk to our members, for our members to meet the organising Committee and put faces to the names, to provide 'question and answer' sessions in the show theatre, and to recruit new members. In retrospect, the show was a great success. Our stand was always crowded, even though we had nothing to sell. Various celebrities and two Amigas may have helped though.

Jim Butterfield was also at the show as our guest. In case you don't know (and I include Commodore in that category), Jim is just about the greatest expert on all Commodore products in the entire world. Maybe if Commodore UK's current management last more than a month, they'll get to hear of him.

One of the more interesting aspects of these events is picking up rumours, like the relaunch of the 64 in a 128-style housing with a GEM lookalike front end, the 3.5 inch disc drives for 64 and 128 (and 740K of storage!). Chris Kaday reportedly said that Commodore provides a 'credible alternative' to the likes of Amstrad. Curious that, when the price of the 128 has just gone UP fifty quid, and Commodore US have laid off 50% of their workforce.

CCI contributor, Bill Donald made an admirable effort on the Precision Stand to sell me their Amiga drawing package. He would have succeeded too, only like most of us, I don't have an Amiga (sob sob!). I wonder if there will be anything left of Commodore by next year, when I have the money? The nice thing about being an independent group, is that we can say what we like about Commodore (like the reply to one question at the show: 'What do you think of Commodore's current pricing policy?'). The fact remains that without Commodore machines and their inherent bugs and stupid non-standard interfaces, we'd all be lost. Like lemmings we still go out and buy the next machine they produce.

A very important event happened on the Saturday of the show. ICPUG held an Extraordinary General Meeting, at which it was agreed that ICPUG will become registered under the Friendly Societies for limited liability. This has been made necessary by the possibility of our membership exceeding the 3000 mark in the near future, and the obvious increase in club funds and property that would entail. It also puts our minds to rest in the unlikely event that the club goes bust —we won't all have to sell our houses!

ATTENTION ALL PROGRAMMERS!!

You may be an experienced programmer – you may be a beginner. Either way, you may have come across some useful tips which could make life easier for other CCI readers.

Or maybe you have written a program, either in Basic or assembly language, that you feel is worthy of publication.

CCI always welcomes contributions from readers. We will publish any suitable listings or programming advice...and we'll pay you for it!

If you wish to contribute something for publication, we require programs on cassette or disk, together with any additional explanatory information and a CLEAR printout of any listings. (The better the original printout, the better the reproduction in the magazine.)

Please enclose a SAE if you wish to have your program returned to you. Please package disks or cassettes carefully!

The address to send contributions to is:

The Editor,
Commodore Computing International,
Finsbury Business Centre,
40 Bowling Green Lane,
London EC1R ONE

Don't forget...CCI welcomes programs for all Commodore computers – 64, Plus/4, C16, 128 plus the VIC and PET.

The 64 Software Centre

1 PRINCETON STREET, LONDON WC1R 4AL — TEL: 01-430 0954

The specialist centre for Commodore 64, 128 and Amiga

Selected items from stock (disk):

C64 (or C128 in 64 mode)

Flight Simulations

Sublogic	Flight Simulator II (d)	£44.00
	Flight Simulator II (t)	£38.00
	Jet (d)	£39.00
	Scenery Disks (set) (d)	£90.00

Submarine Simulations

S.H.	Gato (d)	£24.00

Space Simulations

SSI	Imperium Galactum (d)	£33.00
SSG	Reach for the Stars (d)	£39.00
Cygnus	Star Fleet (d)	£44.00

War Simulations

Avalon Hill	Panzers East (d)	£33.00
	Legionnaire (d)	£33.00
	Dreadnoughts (d)	£33.00
	Tsushima (d)	£33.00
SSI	Breakthrough in the Ardennes (d)	£40.00
	Computer Ambush (d)	£48.00
	Kampfgruppe (d)	£48.00
	Battle Group (d)	£48.00
	Mech Brigade (d)	£48.00
	Operation Market Garden (d)	£48.00
	Colonial Conquest (d)	£33.00
	Carrier Force (d)	£40.00
	Wings of War (d)	£33.00
	50 Mission Crush (d)	£33.00
	Geopolitique (d)	£33.00
	Field of Fire (d)	£33.00
	Cosmic Balance (d)	£33.00
	Six Gun Shootout (d)	£33.00
	Fighter Command (d)	£48.00
	USAAF (d)	£48.00
	Panzer Grenadier (d)	£33.00
	Battle of Antietam (d)	£42.00
	Nam (d)	£33.00
	Battalion Commander (d)	£33.00
Sim Canada	Golan Front (d)	£48.00
	Grey Seas Grey Skies (d)	£48.00
	Fall Gelb (d)	£48.00
	Sieg in Afrika (d)	£48.00
SSG	Carriers at War (d)	£48.00
	Europe Ablaze (d)	£48.00
Barac	Road to Moscow (d)	£39.00
DKG	Clash of Wills (d)	£49.00

Business Simulations

SSI	Cartels & Cutthroats (d)	£33.00
	Rails West (d)	£39.00
Bluechip	Millionaire (d)	£33.00
	Tycoon (d)	£33.00
	Baron (d)	£33.00

Sports Simulations

SSI	Computer Quarterback (d)	£33.00
	Ringside Seat (d)	£33.00
	Prof. Tournament Golf (d)	£33.00
Sublogic	Football (d)	£35.00
Avalon Hill	Superbowl Sunday (d)	£33.00
Epyx	Baseball (d)	£33.00

Fantasy Adventures

Avalon Hill	Mission to Jupiter (d)	£35.00
	Quest of Space Beagle (d)	£35.00
SSI	Phantasie II (d)	£33.00
	Wizard's Crown (d)	£33.00
	Rings of Zilfin (d)	£33.00
Datasoft	Alternate reality (d)	£14.00
Origin	Ultima IV (d)	£50.00

Text Adventures

Broderbund	Brimstone (d)	£39.00
	Essex (d)	£39.00
	Mindwheel (d)	£39.00
Paramount	Star Trek (The Kobayashi Alternative) (d)	£35.00
Infocom	Ballyhoo (d)	£39.00
	The Witness (d)	£39.00
	Spellbreaker (d)	£39.00

Graphic Adventures

Telarium	Amazon (d)	£19.00
	Dragonworld (d)	£19.00
	Fahrenheit 451 (d)	£19.00
Polar	Oo Topos (d)	£39.00

All prices include VAT. Add £1.00 for p&p

Credit cards (Visa/Access) telephone orders accepted

Hours: 10.00 am/6.00 pm (incl Saturdays)

Feature

Under Starter's Orders...

Under Starter's Orders

Can your home-micro help you to win a fortune at the races? Probably not, but some of the programs now available for the Commodore 64 can certainly help in the punter's never-ending battle to gain an edge over the bookies.

For an investment of £15, Selec's Coursewinner is probably the most likely package to show a good rate of return. Although Selec claim that their program can be used by casual punters and experts alike, it is the experienced student of the turf who really benefits from Coursewinner. A comprehensive set of data input options is available, relating to such factors as weight, jockey and trainer information, prize money, past form and speed ratings. Once the information for a particular race has been entered, Coursewinner uses advanced statistical techniques to produce a race forecast. This is not simply a tip for one horse to win, but a calculation of winning probability, form rating and profit level for each runner.

Does Selec's package really work in practice? The answer is both yes and not. In a simple analysis of five races, Coursewinner produced one winner (odds 7-2). It doesn't need an expert in higher mathematics to work out that the five bets produced an overall loss (18% after tax).

Now, one of the great features of this program is that it allows the serious punter to attach his own weightings to the different factors. The above analysis was carried out using equal weights — the default situation.

In another four-race analysis using different weightings, Coursewinner predicted winners (odds 6-1, 3-1 and 11-4). As I had actually backed the horses in a multiple bet (Yankee), the profit was very substantial (1340%). Novices, however, please note: winning Yankee bets do not come up very often and certainly can't be relied upon as a means of financing a playboy lifestyle.

I didn't try out the program on a larger sample of races, because it takes ages to read the small print of the Sporting Life and then punch in the data.

Coursewinner is only sold on tape, but simple disk conversion instructions are provided. Selec's package has separate programs for flat and national hunt races, and contains an extensive data base of vital statistics for all British race courses. Documentation is superb.

Starter's Orders

If parting with £15 for a punter's computer doesn't really appeal, you might be interested in Starters Orders at the bargain price of £6. This tape is marketed by the author, David Jackson, of Todmorden, Lancs. Although very basic — in more ways than one — Starters Ordes is easy to use and requires the very minimum of data input. The tape contains instructions and a very useful example.

After feeding information on type of race and name of course, you are asked for details of the last six performances for each horse. The only information actually used in making the final forecast is the sequence of past results. The rest is just window-dressing.

Once the race details are entered (40 horses maximum), one more touch of a button and the predicted finishing order is displayed. At the next press, straight and dual forecasts (if any) are given. A final keystroke produces specific betting advice.

Of the twelve matches top-rated for score-draws on a particular Saturday, only three actually resulted in score-draws. Not exactly impressive, as it was a good week for draws. At least four could have been predicted by chance alone — after all, score-draws are more or less Acts of God, and even insurance companies cannot predict them.

Experience seems to indicate that, on average, 25% of league matches end up as away wins, and 50% as victories for the home team. Poolswinner seems more effective here, and I feel that it is the afficionados of the fixed odds coupon who will really benefit from this program.

At first sight, the results of a six-race survey using Starters Orders seem encouraging. Three wins in six starts. However, it has to be said that the program usually ends up with the low-priced favourite as its best choice. Besides betting poor odds, no-one needs a computer to decide which horse is favourite. Despite the fact that Starters Orders bases its predictions purely on weighted past results, without taking account of going, distance or weight, it is still reasonable value for money.

One criticism of both the above packages is that they do not provide any details of comparative results. A potential buyer might purchase with more confidence if he knew that the program had picked 40% of the winners in a sample of 500 races.

Poolswinner

Anyone who is not really interested in gambling but enjoys a flutter on the Pools, maylike Poolswinner, another Selec product, also £15.

The program comes on tape and is divided into first, the program itself, then a database, and finally, a results file. Although the database contains past information on all of the teams in the four English and three Scottish leagues — 20,000 matches in all — this has been coded into form factors. The annoying consequence of this is that at least two results (Home and Away) need to be entered from current games before Poolswinner will provide future predictions.

The forecasts themselves come as a percentage rating — matches at the top of the score-draw list having the best chance. Options exist for taking into account present league position and, most importantly, for providing a differential weighting for recent past results.

Even though Poolswinner, like its sister-program Coursewinner, can easily be converted to disk operation, the time taken to input results and fixture lists is still considerable. The manufacturers have gone some way towards solving this problem by producing another tape, Fixgen, which contains fixtures for all English and Scottish teams for the current season (only an extra £1.50 if bought with Poolswinner). Fixgen can also be converted to disk.

Armed with the last football results, Pools fans can expect to spend an hour per week inputting the scores of matches already played, and then forecasting next week's results. At least, that's how long it takes me — and I use the disk version. Fixgen alone can take four minutes to load.

Of course, the burning question is — does it work? Do the predictions of score-draws, homes and aways turn out to be any better than random? Or could you do as well by selecting the results with Grandma's hatpin?

Hares Running

Anyone interested in Greyhound Racing will have a hard time finding any software to take the drudgery out of race analysis. As far as I know, only one such program exists. Priced at £6, Hares Running is another unpretentious offering from David Jackson. This tape is best described as adequate. After punching in the name of the dog-track, time and distance of the race — none of which, incidentally, seems to be used in the analysis — details of each dog's best and most recent time are requested. Armed with this information, the computer prints out the forecast finishing order. Specific betting advice — eg Bet on Toy Boy, minor gamble — is given next, and finally comes a recommendation for a straight forecast.

In a three-race sample, Hares Running produced no winners, but it did pick two second places.

Although fairly primitive, I feel that in the right hands this package could prove to be the punter's best bet in terms of value for money.

For every £1 that the bookie takes in he returns some 80p to the turf investor in winnings. Bearing in mind the haphazard nature of some punters' choices — the jockey has the same name as the family dog, or the horse belongs to the Queen — it should not be difficult for the rational expert, with the aid of his home-micro, to make a considerable improvement on the 80% overall average return, even make a small profit. However, once all of the hours of key-bashing are costed in, the financial equation is likely negative once more. Though you may not obtain a better return on your capital than that afforded by the local bank or building society, you might, however, have more fun.

Selections=A League pos=Y Weighting=20

(D3)	BOURNEMTH	NOTTS C	41.7
(SP)	CLYDEBANK	RANGERS	35.51
(S2)	STIRLING	Q OF STH	33.58
(S2)	BERWICK	STENHSMUIR	33.58
(D2)	SHEFF U	HUDDERSFLD	32.75
(S2)	MEADOWBANK	STRANRAER	30.02
(D1)	MAN CITY	MAN UTD	28.74
(D1)	ARSENAL	SHEFF WED	28.74
(D3)	PLYMOUTH	NEWPORT	28.68
(D1)	OXFORD.	LIVERPOOL	28.11
(S1)	ALBION	E STIRLING	27.87
(D4)	TRANMERE	COLCHESTER	27.87

Selections=X League pos=Y Weighting=20

(D3)	PLYMOUTH	NEWPORT	25.49
(D1)	WEST HAM	LEICESTER	23.73
(S2)	ALBION	E STIRLING	22.83
(D4)	TRANMERE	COLCHESTER	22.83
(D3)	BRISTOL R	LINCOLN	22.72
(S1)	MEADOWBANK	STRANRAER	22.53
(D1)	MAN CITY	MAN UTD	22.47
(D1)	ARSENAL	SHEFF WED	22.47
(D2)	BLACKBURN	WIMBLEDON	22.02
(D2)	SHEFF U	HUDDERSFLD	21.65
(D3)	BLACKPOOL	YORK	21.65
(D2)	MIDDLESBRO	NORWICH	21.56

Selections=H League pos=Y Weighting=20

(D1)	NEWCASTLE	WEST BROM	73.95
(S2)	ARBROATH	COWDENBTH	73.26
(D3)	WIGAN	DARLINGTON	72.29
(D4)	WREXHAM	EXETER	71.11
(D4)	PETERBRO	SWINDON	71.11
(D4)	NORTHPTON	CREWE	71.11
(D2)	BARNSLEY	SHREWSBURY	70.04
(D1)	IPSWICH	BIRMINGHAM	67.55
(D3)	WALSALL	BOLTON	66.73
(D1)	CHELSEA	SOUTHPTON	66.36
(D2)	PORTSMOUTH	STOKE	66.29
(D3)	BURY	DERBY	65.93

PRINT-OUT FROM POOLSWINNER

POOLSWINNER

THE ULTIMATE POOLS PREDICTION PROGRAM

Boxed, with detailed instruction booklet

- **MASSIVE DATABASE** Poolswinner is a sophisticated Pools prediction aid. It comes complete with the largest database available – 22000 matches over 10 years. The database updates automatically as results come in.
- **PREDICTS** Not just SCOREDRAWS, but AWAYS, HOMES and NO SCORES.
- **SUCCESSFUL** SELEC guarantee that Poolswinner performs significantly better than chance.
- **ADAPTABLE** Probabilities are given on every fixture – choose as many selections as you need for your bet. The precise prediction formula can be set by the user – you can develop and test your own unique method.
- **SIMPLE DATA ENTRY** All team names are in the program. Simply type in the reference numbers from the screen. Or use FIXGEN to produce fixture list automatically (see below).
- **DISC/MICRODRIVE COMPATIBLE** Tapes supplied with conversion instructions.
- **PRINTER SUPPORT** Full hard copy printout of data if you have a printer.

PRICE £15.00 (all inclusive)

NOW AVAILABLE

FIXGEN 86/7 AT LAST: No more struggling for hours to get the fixture list into the computer. FIXGEN has been programmed with all English and Scottish fixtures for 1986/7. Simply type in the date, and the full fixture list is generated in seconds. Fully compatible with Poolswinner. Yearly updates available.

POOLSWINNER with FIXGEN £16.50 (for both)

COURSEWINNER V3

THE PUNTERS COMPUTER PROGRAM

NOT JUST A TIPSTER PROGRAM, Coursewinner V3 can be used by experts and occasional punters alike. You can develop and test your own unique winning system by adjusting the analysis formula, or use the program in simple mode. Coursewinner V3 uses statistical analysis of major factors including past form, speed ratings, course statistics, prize money, weight, going, trainer and jockey form etc, etc. It outputs most likely winners, good long odds bets, forecasts, tricasts etc. The database includes vital course statistics for all British courses. You can update the database – never goes out of date.

PRICE £15.00 (all inclusive) includes Flat AND National Hunt versions.

ALL PROGRAMS AVAILABLE FOR: AMSTRAD CPCs, AMSTRAD PCWs (ADD £3.00), All BBCs, All SPECTRUMS, COMMODORE 64/128, ATARI (48K+), SINCLAIR QL.
Supplied on tape (simple conversion to disc) – except PCW (on 3" disc) and QL (on microdrive)

Send Cheques/POs for return of post service to . . .

VISA phone 24 hrs

selec SOFTWARE

Access phone 24 hrs

37 COUNCILLOR LANE, CHEADLE, CHESHIRE. ☎ 061-428 7425

(Send for full list of our software)

SAVE 50% ON FLOPPY DISKS WITH FLIPPY DISKS AND DISK NIBBLER

FLIPPY DISKS are the most versatile 5¼" soft sectored disks available. They are double sided, double density, and specially designed to allow both sides to be used, either on a double or single sided drive. Single sided drive users will require the use of a **DISK NIBBLER** to enable them to write to the flip-side. The end user can now save up to 50% on disks and disk storage boxes.

ORDER NOW

AND TAKE ADVANTAGE OF OUR LAUNCH "SPECIAL OFFER"

(SAVE £5.30) £3.00 off Disk Nibbler plus free Flippy Disk
(SAVE £15.00) £5.05 off box of 10 Flippy Disks plus free Nibbler

And single sided drive users still get 100% more storage

Just return the order below, enclosing your cheque/p.o./m.o. and post to Computatill Ltd., Freepost, Oldham, OL9 6BR (no stamp required) or ring 061 652 8006 with your Barclaycard/Access details.

VISA

TRADE AND BULK ORDERS PLEASE RING 061 652 8006

To Computatill Ltd., Freepost, Oldham, OL9 6BR

I would like to take advantage of your launch "Special Offer"

	Qty.		
Please send		DISK NIBBLER/S at ~~£9.95~~ £6.95	= £
plus		FREE FLIPPY DISK (one per Nibbler)	
Please send		BOX/ES (10) FLIPPY DISKS at ~~£23.00~~ £17.95	= £
plus		FREE DISK NIBBLER/S (one per box of 10 Flippy Disks)	

I enclose cheque/p.o./m.o. for TOTAL = £

NAME .....

ADDRESS .....

.....

CLASSIFIED

Upgraded Superbase 64 £45 super script 64 k35 for sale complete with manuals. Tel: 01-504 4101. C J Prince, 50 Forest Edge, Buckhurst Hill, Essex.

Wanted MS2000 Mouse or MPS 801 70 swap for my software on disk and tape disk. All new. Michael Tang, 560 Rayleigh Rd, Eastwood, Southend, Essex SS9 5HY.

Commodore 128 For sale boxed and under guarentee. £220 Tel Uxbridge (0895) 57582. Victor Paz, 14 Parkfield Av, Hillingdon, Middx UB10 0DF.

Nepa Trade 201-495-1357 would like to trade C64 software with anyone outside U.S.A. Write Ted Patterson, 145 Ramsey Av. Keansburg, New Jersey

CBM 64 with C2N Cassette and Simons with over 50 games and Business Programs. Cost over £400 sell for £150. Tel. 0384 393290 Eve. (Mr Grimes, 30 Drew Cresent, Wollescote, Stourbridge DX9 0UX.)

Rotronics Lockable case, suitable for CBM 64 C16 and ULC20 with accessorys. Removable top converts case to portable work station k40 ono. Phone 21 478 0529 Eve. (Buyers must collect) (Gary Fletcher, 28 Burnside way, Northfield, Birmingham B31 4JY).

C64 Computer P/supply. Mint £140. Easy file £25. Seiko RC1000 wrist terminal mint £25. Music Maker unused £12 . Barker 52, St. Chads Drive, Gravesend, Kent DA12 4EL.

CPM MPS 803 Printer Friction feed complete with leads etc k100 ono Tel (0743) 59172.

CBM 64 + 12N + Joystick, Tapes, Books etc. Large collection of turbo programs £500 sell the lot for £400. Write - Lynn, 2 Ashby Rd, Melbourne, Derbyshire DE7 1ES.

Pen Pals Wanted - Gareth Owen, 93 Crook Lane, Winsford, Cheshire CW7 3DN. All letters answered would like American Pen Pal mostly.

Wanted for C64 Equivalent of 'Atar's Space Invader' cash or Swap. Phone Tim 01-866-6133 Eve. Tim Harrison, 22 West Way, Pinner, Middx.

CBM16 Starter back roller fong and other software £35. Phone Scarborough (0723) 891345 after 4.30 pm. Shaun Beanland, 7 Wide Lane, Speeton, Nr Filey, N. Yorkshire. YO14 9TB.

CBM 64 Software Zoids, Hacker, Gyroscope, Beachhed II, Bounty Bob, £5 each. Encounter £4. Pharoahs Curse Disk £7. Tel. Doncaster 61672 Eve. No offers. (Nigel Morse, 11 Green Leafe Av. Wheatly Hills, Doncaster.)

Commodore 128D Built in D/S Disk Drive latest from CBM including 1901 colour monitor £120. Worth software and spreadsheet guarentee. Accept £700.00 Tel (0564) 223321 Eve (Richard White 'Ferndale', New Rd, Henley in Arden, Solihull, W. Midlands.)

C64 C2N Cassette 1541 Disk Drive, 1702 Monitor, 1520 Printer, Quick Disc, Simons Basic, Easy Script, Joystick, Games and Utilities on disk. £450. 0622 671732. (Mr. M. Cook, 11 Aldon Close, Maidstone, Kent.)

EDUCATION

DISKS / CASSETTES
All 1986 releases

C64/128

NOT TO BE CONFUSED WITH OLD CHEAP DISCOUNT SOFTWARE

CSE/O-LEVEL
BIOLOGY 1, BIOLOGY 2, PHYSICS 1, CHEMISTRY 2,
DISKS £9.95 EACH
AGE 12 - ADULT
PHYSICAL GEOGRAPHY, MAPWORK, SOCIAL/ECONOMIC, WEATHER/CLIMATE, ORDNANCE SURVEY/EARTH
DISKS £9.95
AGE 10–15
BETTER SPELLING, BETTER MATHS 1
DISKS £9.95 EACH
CASSETTES ANY TWO PROGRAMS FOR THE PRICE OF ONE £9.95

SCHOOL SOFTWARE LTD.

IMMEDIATE DELIVERY SEND CHEQUE/PO TO
School Software Ltd Meadowvale Estate Raheen
Limerick Ireland
Tel (UK) 010/353/61/27994. IRI 061/27994

Commodore Modem unused comes with one years membership of compunet, original packaging and documents £60 (includes p & p) Telephone Preston (0772) 745033. (Gerald Short, 32 Mulberry Ave, Penwortham, Preston, Lancs, PR1 0LL.)

Spectrum 48K. Printer cassette recorder, turbo interface Joystick, carrycase + games. Sell for £140 ono or will exchange for Commodore 64 + Cassette. Tel. Corby (0563) 69620 after 6 pm. (Mr A.M. Parkhill, 8 Bexhill Walk, Corby, NR18 0PY.)

C-16 Penpal wanted! Robbert Nusteling, Wolwevershaven44, 3311 AW Dordrecht. Holland. All Letters answered! (Holland 078-133416)

CBM 64 Plus 1541 Disc Drive and MPS 801 Printer for sales, plus lots of games £350 the lot, or split tape recorder included. Ring Anish on 01-907-9810 after 6 pm. Still all boxed (Anish Kumar Bhatt, 55 Rowland Ave, Kenton, Middx HA3 9AG)

Vic 20 Penpal wanted graphic games aged 13 to 14. Please apply to Stewart Edwards, 74 Estcourt Road, Woodside, London, SE2S 4SB. Enclose name and address.

Superbase 64 To swop for eversham Micro's "Freeze Frame" cartridge no manuals write for further details to Mr G P Hart, 92 Carfield, Skelmersdale, Lancs, WN8 9DN.

All Plus/4 Owners. Penpals wanted to swap ideas, etc. Please write to Carl Beesley, 41 Lindean Place, Cramlington, Northumberland, NE23 8EQ.

Exchange C16 Flight zero one five game for Treasure Island or Psychedela. Tel. 0480 68037. D. Birkert, 90 Weeding Worth Rd, St Ives, Cambs, PE17 4JT.

Wanted Commodore SX64. Please telephone 0825 790294 Mrs Z. De Rivaz, Little Bridge House, Danehill, Sussex

ACE SPECIAL Plus/4 full 64k version brand new unwanted gift. Original box. £7.50 inc. UK Post. Phone Duncan on 01-467-8367. (D Hughes, 20 Chesham Av. Pettswood, Kent)

Wanted C64 with data recorder and manual for basic programming. Must be in good working order, can collect from Midlands Area reasonable price paid. Please phone Stewart, Coventry, 74012 Evenings Monday-Thursday P.S. Annibal, (157 Prince of Wales Rd, Chapelfields, Coventry, W. Midlands. 0203-74012.)

Commodore 64 1541 Disk Drive, Simon's Basic, Easy File, Intro to basic party plus other software £310. Tel 01-904 1765. (Mr A. Rattan, 28 Pasture Close, Wembley, Middx HA0 3JE).

CBM 710 I would like to get more software for this nice micro, I am beginning to use. Dr Pabst, P.O. Box. 1821. 0-6370, Oberursel, W. Germany 06171-24826.

Seiko RC-1000 wrist terminal unused. Brand new compatible with C-64 and C128. Cost £99. Now only £45. 01206 0969. R. Born, 100 Portland Cres, Stanmore, Middx.

CBM C2N wanted must be in good working order. Tel. 0446 750102. Mr Llewellyn - Mortimer, 47 Glyndwr Av, St. Athan, Vale of Glam. CF6 9PP.

or.... PAGE 130 including our amazing supplement!

INCENTIVE

THE GRAPHIC ADVENTURE CREATOR

The amazing, combined text and graphics adventure generator enables you to produce fast, compact adventure games with the minimum of effort and the maximum of creativity. Stunning graphics can be created quickly and easily with the powerful picture generator that has many features including:– dot, circle, elastic line, ellipse, fast fill, shading, step by step review, easy editing and the ability to merge pictures.

The comprehensive, intelligent command interpreter can handle complex sentences and multiple input commands. There is also an extensive text compression facility that allows you to produce far more detailed and numerous location descriptions. Plus a full function editor, automatic word formatting, a logical command interpreter and an abbreviated input acceptance facility.

So unleash the power of your imagination now with **The Graphic Adventure Creator,** for your Commodore 64 computer. Available from all leading retailers or direct from Incentive on 0734 591678.

INCENTIVE SOFTWARE LTD. 54 London Street, Reading RG1 4SQ.

Please rush me, for my Commodore 64 Computer **THE GRAPHIC ADVENTURE CREATOR**

☐ Cassette £22.95
☐ Disc £27.95

I enclose Cheque/PO for £_____
or please debit my Credit Card

No._____

Name_____

Address_____

Choosing the right computer is a good start — but can you find the right software?

At SUPERSOFT we're very conscious of the fact that people who spend several hundred pounds on computer equipment are looking to do rather more than play Space Invaders.

Financial planning is a rather grand name for sornething you've been doing all your life – making ends meet! Perhaps if Mr Micawber had used **BUSICALC** he would have been able to balance the books a little better.

For home, club or small business use BUSICALC 1 should pay for itself in no time at all; for larger companies we recommend BUSICALC 3, one of the few really valuable programs that you can learn to use in a day.

Although your Commodore 64 is a powerful musical instrument you need to be a pretty good programmer to understand how it all works. Unless, of course, you buy **MUSIC MASTER!**

To use MUSIC MASTER requires no prior musical knowledge, though in the hands of an experienced musician it will prove an invaluable tool. You don't need to know the first thing about programming either! MUSIC MASTER is the musical equivalent of a word processor, remembering the notes you play and allowing you to replay and edit them as you wish.

INTERDICTOR PILOT is a space flight simulator. Nowadays simulators are widely used to train pilots and astronauts because – to be frank – it's a lot cheaper (and safer) than the real thing!

Imagine, if you will, life in the 22nd century: space travel is commonplace, and on the outskirts of the galaxy the first war between civilizations is being fought. A shortage of trained pilots has prompted the Federation to develop a computer simulation that allows raw recruits to gain experience without paying for their mistakes with their lives. With the aid of your Commodore 64 you too can learn to pilot the Interdictor Mk 3 craft. But be warned – this is no game!

Other SUPERSOFT products include the **MIKRO ASSEMBLER** cartridge, the only assembler that's ideal for beginners yet powerful enough for the professional (most of our competitors use it!). The **VICTREE** cartridge adds dozens of commands to Basic including toolkit aids and disk commands; or on disk there's **MASTER 64,** a really comprehensive package for the keen programmer.

Of course, we do also publish games programs, and with classics like **STIX, QUINX** and **KAMI-KAZE** in our range we are one of the market leaders. But we most enjoy coming up with the sort of programs that are going to be in use for months and years, not hours and days – the sort of programs that make you glad that you bought a computer – and glad that you bought SUPERSOFT!

You won't find SUPERSOFT products on the shelves of your local supermarket. But most specialist shops stock titles from our extensive range (and are prepared to obtain other programs to order). However you can also buy direct by sending a cheque (pre-paid orders are post free!), by calling at our offices, or over the telephone using your ACCESS card.

SUPERSOFT

SUPERSOFT, Winchester House, Canning Road, Wealdstone, Harrow, Middlesex HA3 7SJ
Telephone: 01-861 1166